CHAPTER-V
RESULTS AND DISCUSSION

In order to test the hypotheses formulated in Chapter-IV, two experiments were conducted and the obtained results have been presented and discussed in the following chapter.

The first experiment was designed to study the effect of extraversion and level of intelligence on learning and memory. There were four groups (High extravert + more intelligent - $G_{1}$, low extravert more intelligent - $G_{11}$, high extravert + less intelligent - $G_{II}$ and low extravert + less intelligent - $G_{IV}$) with 12 subjects in each group. Subjects of each group were presented list $a$ for learning and after achieving 100% learning criteria subjects were shown list $B$ for 5 minutes as an interpolated activity and finally recall of list $A$ was taken. In this way subjects learning and retrieval ability was measured in relation to their extent of extraversion and level of intelligence.

To attain the above said purpose, the investigator prepared two similar 2x2 factorials of four groups. In the first factorial number of learning trials taken by the subjects of achieve the perfect learning criteria, and in
the second number of correctly recalled syllables were taken as dependent variables.

**Table 3**: Showing mean learning trials taken to attain perfect learning by the subjects of Groups I, II, III and IV, (For details please see appendix-B-I to B-4).

<table>
<thead>
<tr>
<th></th>
<th>E+</th>
<th>E-</th>
</tr>
</thead>
<tbody>
<tr>
<td>More Intelligent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G-1</td>
<td>6.83</td>
<td>11.17</td>
</tr>
<tr>
<td>G-II</td>
<td>11.00</td>
<td></td>
</tr>
<tr>
<td>Less Intelligent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G-III</td>
<td>7.33</td>
<td>16.33</td>
</tr>
<tr>
<td>G-IV</td>
<td>11.83</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.08</td>
<td>15.75</td>
</tr>
</tbody>
</table>

From the results it appears that the groups with high extraversion (G-I and G-III) had taken less trials to attain the perfect learning as compared to those of low extravert i.e. introvert groups (G-II and G-IV). Level of intelligence seemed to be less important variable as there is slight difference between mean scores of more intelligent and less intelligent subjects. The mean scores have been shown graphically in Figure-5.

In order to test whether the differences between the mean scores of the groups were statistically significant two-way analysis of variance (ANOVA) was employed.
Figure 5: Showing mean learning trials taken to attain perfect learning by High/Low extraverts and more/less intelligent.
Table 4: Showing summary of two-way analysis of variance applied to the scores of learning trials taken to attain perfect learning of List-A by the subjects of Groups-I, II, III, and IV (For details please see appendix: C-I)

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>df</th>
<th>Sum of square</th>
<th>Mean square (variance)</th>
<th>F-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between variable-A (extraversion)</td>
<td>(K-1)</td>
<td>901.3333</td>
<td>901.3333</td>
<td>146.56*</td>
</tr>
<tr>
<td></td>
<td>(2-1)=1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between variable-B (Intelligents)</td>
<td>(r-1)</td>
<td>8.3333</td>
<td>8.3333</td>
<td>1.36</td>
</tr>
<tr>
<td></td>
<td>(2-1)=1</td>
<td></td>
<td></td>
<td>(NS)</td>
</tr>
<tr>
<td>Interaction AXB</td>
<td>(K-1)x(r-1)</td>
<td>1.3333</td>
<td>1.3333</td>
<td>.2168</td>
</tr>
<tr>
<td></td>
<td>1X1=1</td>
<td></td>
<td></td>
<td>(NS)</td>
</tr>
<tr>
<td>Within in group</td>
<td>(N-K)</td>
<td>270.6668</td>
<td>6.15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(48-4)=44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* P < .01

From Table-4, it is quite clear that F-value for extraversion variable is highly significant where rest of the two F-values for intelligence variable and interaction are non-significant. This indicates that high extravert subjects are significantly different from the low extravert subjects in learning, while level of intelligence has nothing to do with the speed of learning. And, also there is non-significant interactive effect of extraversion and level of intelligence. In other words
high extravert subjects have learned list-A more rapidly and faster than the low extravert or introvert subjects but more intelligent as well as less intelligent subjects took almost equal number of trials to attain the perfect learning criteria.

The obtained results are in the line with those obtained by McLaughlin (1968) who reported that extraverts learned the list more rapidly than introverts. Howarth (1969) also found that in paired associate and serial list learning introverts needed more trials than the extraverts.

Thus the first hypothesis which have predicted that high extravert subjects would show faster learning than the low extravert subjects is varified. One of the possible explanation for the rapid learning by high extraverts is that high extraverts have better visual imagery (Paivio, 1975). One more explanation can also be forwarded on the basis of the level of arousal. For better performance on a given task, one need an optimal level of arousal. Introverts belong to the high arousal group in comparison to the extraverts. Moreover, the learning task which itself is a stressful situation extend/increase the existing level of arousal. In turn, this increase in arousal level help the extraverts (being low arousal group) to reach the optimal level and show better and fast learning.
In order to test the second hypothesis mean correct recall scores of the subjects were put to analysis. These recall scores of List-a were obtained after the exposure of List-B as an interpolated activity for five minutes.

Table 5: Showing mean recall scores of the subjects of Groups I, II, III and IV (For details please see appendix: B-I to B-4).

<table>
<thead>
<tr>
<th></th>
<th>E +</th>
<th>E -</th>
</tr>
</thead>
<tbody>
<tr>
<td>More Intelligent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G-I</td>
<td>9.083</td>
<td>6.917</td>
</tr>
<tr>
<td>G-II</td>
<td>8.00</td>
<td></td>
</tr>
<tr>
<td>Less Intelligent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G-III</td>
<td>9.00</td>
<td>6.58</td>
</tr>
<tr>
<td>G-IV</td>
<td>7.792</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9.0415</td>
<td>6.75</td>
</tr>
</tbody>
</table>

Results Table-5 clearly indicates that high extraverts have recalled more words in comparison to the low extravert subjects. In this condition also intelligence variable seems to be inactive. The mean recall scores of high extraverts is 9.0415 where for low extraverts this is 6.75. In case of more intelligent subjects the recall score is just .208 (8.00-7.792) greater than the recall score of less intelligent subjects. These mean recall scores have been graphically depicted in Figure-6.
Figure-6:  Showing mean recall scores of high/low extraverts and more/less intelligent subjects.
In view to test the difference in mean recall scores of various groups statistically, the two-way analysis of variance (ANOVA) was used.

**Table-6:** Showing summary of two-way analysis of variance applied to the recall scores of the subjects of groups-I, II, III & IV. (For details please see appendix: C-2).

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>df</th>
<th>Sum of square</th>
<th>Mean square (variance)</th>
<th>F-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between variable A</td>
<td>(K-1)</td>
<td>63.0208</td>
<td>63.0208</td>
<td>37.0928*</td>
</tr>
<tr>
<td>A(Extraversion)</td>
<td>(2-1)=1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between variable B</td>
<td>(r-1)</td>
<td>.5208</td>
<td>.5208</td>
<td>.3065</td>
</tr>
<tr>
<td>B (Intelligence)</td>
<td>(2-1)=1</td>
<td></td>
<td></td>
<td>(NS)</td>
</tr>
<tr>
<td>Interaction AXB</td>
<td>(K-1)x(r-1)</td>
<td>.1875</td>
<td>.1875</td>
<td>.110</td>
</tr>
<tr>
<td></td>
<td>1x1=1</td>
<td></td>
<td></td>
<td>(NS)</td>
</tr>
<tr>
<td>With in group</td>
<td>(N-K)</td>
<td>74.7501</td>
<td>1.699</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(48-4)=44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* P < .01

If we examine the summary table carefully, one thing emerges out clearly - Extraversion variable has effective and significant role to play in memory. In other words, it can be safely stated that high extraverts subjects when tested at short interval have shown significantly greater recall scores than the low extravert or introvert subjects. F-value for intelligence variable is non-significant which shows that there is no significant difference between the recall
scores of more and less intelligent groups. It further indicate that intelligence play no role in such type of memory. Table-6 also shows the non-significant intractive effect of extraversion and level of intelligence on memory. It appears that introverts who have taken more trials to learn the List-A failed to retain the syllables because of the five minutes interruption given in the form of List-B.

The results are in the line with those obtained by H.J.Eysenck (1967), Eysenck (1974 a and b). In 1967 H.J. Eysenck modified Walker's (1958) action decrement theory and stated that period of consolidation is longer for introverts than for extraverts, with the result that the short-term retention of extraverts exceeds that of intraverts. Eysenck (1974 a) observed that extraverts recalled significantly more items than the introverts. During the same year Eysenck further found that extraverts out performed introverts on tasks requiring word recall. Jones (1976) also found that extraverts recall the prose slightly more than introverts at an immediate or short interval retention test but after 30 minutes no difference were obtained.

In an earlier study conducted by Kleinsmith and Kaplan (1963), it was observed that high arousal
(introversion) impairs short-term retention (upto approximately 20 minutes) after acquisition but facilitate long-term retention. The model finding is that extraverts have better recall than introverts when the memory test is undertaken at short-term interval, however, this is reversed at longer retention intervals.

The difference in the performance of introverts and extraverts on easy and difficult tasks can also be interpreted according to the Yerkes-Dodson Law (1908), which states that the optimal level of arousal is required to show the better performance.

There is some experimental evidence (e.g. Cameron and Myers, 1966) that superior short-term retention of extraverts is attributable to their greater readiness to produce responses. The poor recall scores of introverts may be also because of the difference in the retrieval strategies adopted by introverts and extraverts. Moreover, extraverts are more resistant and introverts more susceptible to interference.

Examining the obtained results and statistical analysis of experiment-I in the light of above discussion, the second hypothesis which had predicted that in short-term retention test high extravert subjects would retrieve more words than the low extravert subjects is verified.
To test the next hypothesis, experiment-2 was conducted. This hypothesis predicts that high neurotic subjects would require more trials to learn than low neurotic subjects. In this experiment there were four groups: - high neurotic + more intelligent, G-V, low neurotic + more intelligent G-VI, high neurotic + less intelligent G-VII and low neurotic + less intelligent G-VIII. Each group consisted of 12 subjects and learning and retention testing procedure adopted in experiment-I was repeated and two similar 2X2 factorials of above said four groups were prepared. In first no. of learning trials taken by the subjects to achieve the perfect learning criteria, and in second no. of correctly recalled syllables were taken as dependent variables.

Table-7: Showing mean learning trials taken to attain perfect learning by the subjects of groups-V, VI, VII and VIII (For details please see appendix-B-5 to B-8).

<table>
<thead>
<tr>
<th></th>
<th>N+</th>
<th>N-</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>More intelligent</td>
<td>G-V</td>
<td>G-VI</td>
<td>8.542</td>
</tr>
<tr>
<td></td>
<td>9.167</td>
<td>7.917</td>
<td></td>
</tr>
<tr>
<td>Less intelligent</td>
<td>G-VII</td>
<td>G-VIII</td>
<td>13.709</td>
</tr>
<tr>
<td></td>
<td>14.917</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12.042</td>
<td>10.209</td>
<td></td>
</tr>
</tbody>
</table>
The result table indicates that in comparison to high neurotics, low neurotic subjects consumed less number of trials to reach the criteria. Level of intelligence also seems to be effective variable as more intelligent subjects required considerably lesser trials to learn the list. The mean scores on these two variables have been graphically shown in figure-7.

Two-way analysis of variance was applied to the mean trials scores in order to test the significance of mean differences statistically.

**Table-8:** Showing summary of two-way analysis of variance applied to the scores of learning trials taken to attain perfect learning of List-A, by the subjects of groups-V, VI, VII & VIII (For details please see appendix-C-3)

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>df</th>
<th>Sum of square</th>
<th>Mean square (variance)</th>
<th>F-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between variable-A</td>
<td>(K-1)</td>
<td>40.3332</td>
<td>40.3332</td>
<td>8.0484*</td>
</tr>
<tr>
<td>(Neuroticism)</td>
<td>(2-1)=1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between variable-B</td>
<td>(r-1)</td>
<td>320.3332</td>
<td>320.3332</td>
<td>63.9221*</td>
</tr>
<tr>
<td>(intelligent)</td>
<td>(2-1)=1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction AXB</td>
<td>(K-1)X</td>
<td>4.0835</td>
<td>4.0835</td>
<td>0.8148</td>
</tr>
<tr>
<td></td>
<td>(r-1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1X1=1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With in group</td>
<td>(N-K)</td>
<td>220.5001</td>
<td>5.0113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(48-4)=44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* P < .01
Figure-7: Showing mean learning trials taken to attain perfect learning by High/Low neurotics and more/less intelligent subjects.
Table-8 gives clear support to the fact that more intelligent groups (V, VI and low) neurotic groups (VI and VIII) took significantly less number of trials to learn the list. However, minimum number of trials were consumed by low neurotic and more intelligent subjects (G-VI). Here neuroticism as well as level of intelligence, both variables have significantly affected the speed of learning. But the investigator failed to observe significant interactive effect between these two variables. In other words subjects with emotional stability showed better performance and subjects belonging to anxious groups (High neurotic) found to be slow-learner.

The obtained results can be explained on the basis of the relationship between the anxiety and memory. Eysenck and Eysenck (1969) found that the second order factor of anxiety obtained from 16 PF test correlated substantially with the neuroticism scale of the EPI. Sherrill et al (1968) obtained significant correlation between scores on neuroticism and manifest anxiety scale. Since high neurotic subjects who are worrying individual moody, frequently depressed are also high on anxiety scale. Moreover, learning task being demanding and stressful in itself further increased the level of anxiety which results in extremely high level of anxiety in high neurotics. This, in turn, adversely
affect the learning process specially of those tasks which are meaningless and have low associative value. Thus, high level of intelligence of high neurotic subjects help them to cope and concentrate on the task and subjects with less intelligence level has to suffer and that is why they needed more trials. (Eysenck and Eysenck, 1979).

The above discussion and the results mentioned in tables 7 and 8 support the third hypothesis therefore, the hypothesis predicting high neurotic subjects require more trials to learn then low neurotic subjects is verified.

On the basis of the results of experiment-2 the mean recall scores of various groups were worked out to test the fourth hypothesis of the present investigation.

Table 9: Showing mean recall scores of the subjects of groups-V, VI, VII and VIII (For details please see appendix-B-5 to B-8).

<table>
<thead>
<tr>
<th></th>
<th>N+</th>
<th>N-</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>More intelligent</td>
<td></td>
<td></td>
<td>7.67</td>
</tr>
<tr>
<td>G-V</td>
<td>6.42</td>
<td>G-VI</td>
<td>8.92</td>
</tr>
<tr>
<td>G-VII</td>
<td>7.67</td>
<td>G-III</td>
<td>7.415</td>
</tr>
<tr>
<td>Less intelligent</td>
<td></td>
<td></td>
<td>7.415</td>
</tr>
<tr>
<td>6.21</td>
<td>8.875</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
From above table it is clear that high neurotics have recalled less syllables in comparison to the low neurotics, although, recall performance of more intelligent and less intelligent groups is almost equal. The mean recall scores have been shown graphically in figure-8. In view to test the significance level of mean differences, two-way analysis of variance was applied.

**Table 10:** Showing summary of two-way analysis of variance applied to the recall scores of the subjects of groups V, VI, VII and VIII (For details please see appendix-C-4).

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>df</th>
<th>Sum of square</th>
<th>Mean square</th>
<th>F-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between variable-A</td>
<td>(K-1) ((2-1)=1)</td>
<td>85.3333</td>
<td>85.3333</td>
<td>69.945*</td>
</tr>
<tr>
<td>(Neuroticism)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between variable-B</td>
<td>(r-1) ((2-1)=1)</td>
<td>.7499</td>
<td>.7499</td>
<td>.61467 (NS)</td>
</tr>
<tr>
<td>(Intelligence)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction AXB</td>
<td>(K-1)X(r-1) 1</td>
<td>.3334</td>
<td>.3334</td>
<td>.2733 (NS)</td>
</tr>
<tr>
<td>With in group</td>
<td>(N-K) ((48-4) = 44)</td>
<td>53.5001</td>
<td>1.22</td>
<td></td>
</tr>
</tbody>
</table>

* P \(< .01*

If we look at the summary table carefully, there is a clear indication that only the level of neuroticism have significantly affected the recall scores. Low neurotic subjects (stable) recalled
Figure-8: Showing mean recall scores of high/low neurotics and more/less intelligent subjects.
significantly greater number of syllables in comparison to the high neurotic subjects (emotionally unstable). However, level of intelligence could not contribute significantly. There is also non-significant interaction between the two variables.

One possible reason for the inferior recall scores of high neurotic subjects may be the basic difference in the personality of low and high neurotics. As it is mentioned in Chapter-I that a person having higher score on neuroticism is an anxious and emotionally unstable. On the other hand a stable individual is usually calm, even tempered, controlled and unworried. Therefore, person with high neuroticism failed to resist the interference and showed poor performance. One more possible explanation for poor recall scores of high neurotics is that high anxious individuals tend to engage in more task-irrelevant processing activities (Ganzer, 1968; and Nottelman and Hill, 1977). As a consequence, highly anxious subjects are in fact in a dual-task or divided attention situation, in contrast to non-anxious subjects who primarily process task-relevant information. Spence and Spence (1966) also predicted that anxiety would worsen performance on difficult tasks. Mueller (1977) discovered that high anxiety subjects had significantly inferior free recall to low anxiety subjects.
The obtained results shown in tables 9 and 10 are in the line of those mentioned above. Therefore, on the basis of the statistical analysis of the results and support from above cited research findings the fourth hypothesis which predicts that high neurotic subjects would show poor recall than the low neurotic subjects is verified.

To test the second last hypothesis of the present investigation one has to go back in the details of Table-3 to Table 10. This hypothesis states that more intelligent subjects would show faster learning and better recall than the less intelligent subjects. Looking on the result tables, it is clear that at most of the occasions excepting result tables-7 & 8, this hypothesis finds no support. In case of learning trials taken by high and low neurotic subjects (Table 7 & 8), it was found that level of intelligence affects the learning significantly and more intelligent subjects showed faster learning in comparison to less intelligent subjects. In rest of the three combinations, intelligence played a non-significant role.

Intelligence, however, is an important variable and no. of studies report positive correlation between intelligence and learning & memory (Robinson and Kingsley, 1977). On the other hand, some studies
observed low and non-significant correlation between the two (Vernon, 1950; Libb and Coleman, 1975; Swanson, 1978). In a later study conducted by Tanwar and Kumar (1986) no-significant difference was observed between the performance of high and average intelligence subjects. In the present study also, the investigator included only high and average intelligent subjects in the sample in view of the non-availability of the sufficient number of subjects under the heading of low intelligent groups. And, so, high and average intelligent groups were considered as more and less intelligent groups. On the basis of above discussion and obtained results the fifth hypothesis is partially verified.

The sixth and last hypothesis of the investigation is about the introctive effect of personality dimensions and level of intelligence on learning and memory. In all the four summary tables of ANOVA (Table - 4, 6, 8 and 10) the F-values for interaction have been found non-significant. Thus, according to findings of the present investigation personality dimensions (Extraversion and neuroticism) and level of intelligence (high and average) had no significant interactive affect either on learning or memory. The results, however, are not consistent with
the results obtained by Tanwar and Kumar (1986). They observed the significant interaction among personality X sets and intelligence X sets variables in the distractor technique of memory while in probe technique also they observed a significant interactive effect of personality and intelligence on short-term memory.

Keeping in view the inconsistency between the results of present investigation and Tanwar and Kumar (1986), the last hypothesis predicting interactive effect of personality dimensions and level of intelligence on learning and memory is not verified.

Following the above discussion it is concluded that personality dimensions significantly and remarkably influence the learning and memory. Although, learning and memory are also influenced by some other factors e.g. the difficulty level of the task and the kind of learning material but individual differences particularly in type of personality has determinental effect on learning and retrieval strategies. It appear that all the three stages of memory (encoding, storage, retrieval) are differently related with the different dimensions of personality.
Learning has occupied a central position in modern psychology. This is an important process of life. Life without learning is unthinkable. Learning and memory both are interrelated terms. Memory without learning is not possible. The term learning has been explained in many ways. The simplest way to define learning is to say that whenever one adds something new in his/her old experience that is called learning.

When people think about memory they consider only the way one retain facts. If one can remember many facts for a long time then memory is good, if not it is not. Basically, there appear to be two different memory systems, each involved with the encoding storage and retrieval of information. These two systems are short-term memory (STM) and long-term memory (LTM).

These are many factors which remarkably influence the learning and memory processes. It is very difficult to list all those possible factors and their influences in a single investigation. The factor which attracted the investigator are (i) personality dimensions (ii) level of intelligence. There are many theories with explain types and kinds of personality. In the present investigation the author explain the dimensions of
personality according to the Eysenck theory of personality. In this theory there are three dimensions - a) extraversion/introversion, b) neuroticism and c) psychoticism. These dimension of personality have been focus of strong interest in experimental studies of learning and memory.

Another important factor which may influence learning and memory is the level of intelligence of learner. In view of the very few number of research studies pertaining personality dimensions and level of intelligence together, the present study was designed with the aim to study the learning and retrieval ability as function of personality dimension and level of intelligence.

It was hypothesized that:

1. High extravert subjects would show faster learning than the low extravert subjects.
2. In comparison to low extravert subjects high extravert subjects would retrieve more in short interval retention test.
3. High neurotic subjects would require more trials to learn than low neurotic subjects.
4. High neurotic subjects would show poor recall than the low neurotic subjects.
5. More intelligent subjects would show faster learning and better recall than the less intelligent subjects.

6. There would be an interactive effect of personality dimension and level of intelligence on learning and memory.

For the present study, the investigator in the beginning administered Eysenck personality inventory (High addition) and Raven's standard progressive matrices to the students of B.A-I, II and III of M.K.J.K.College, Rohtak. The students were then categorised on the basis of the respective mean and S.D. values. For the final selection the investigator classified the students in the following groups:- G-I (High extravert \((E_+)\) + more intelligent); G-II (low extravert \((E^-)\) + more intelligent); G-III (High extravert \((E+)\) + less intelligent); G-IV (low extravert \((E^-)\) + less intelligent); G-V (High neurotic \((N+)\) + more intelligent); G-VI (low neurotic \((N^-)\) + more intelligent); G-VII (High neurotic \((N+)\) + less intelligent) and G-VIII (low neurotic \((N^-)\) + less intelligent). Each group consisted of 12 subjects.

In order to test the hypotheses two experiments based on 2x2 factional designing were conducted. First four groups belong to Experiment I and remaining four to experiment II. In experiment-I S groups (I,II,III and
IV) were asked to learn List-A of 10 non-sense syllables upto the criteria of perfect learning. Trials taken by the subjects were recorded and after that in order to prevent the rehearsal, subjects were shown List-B for 5 minutes as an interpolated task. In the end subjects were asked to recall the syllables of List-A. The subjects of groups- V, VI, VII and VIII were treated in the same manner and their learning and recall scores were recorded in the same fashion during experiment-2.

In each experiment there were two separate (learning trial and recall) 2X2 combinations. In all there were four 2X2 combinations and two-way analysis of variance was applied for testing the significance of differences between the mean scores. The results indicated that high extravert subjects learned more rapidly and showed better recall in comparison to the low extravert subjects. Low extravert subjects were found to be more susceptible to interference. On N-dimension of personality, the low neurotic or stable subjects performed better than the high neurotic subjects. Although, high level of intelligence helped the high neurotic subjects to cope with the emotional instability and make them to maintain their pace of learning. The level of intelligence was found to play inactive role in rest of the conditions. During both the experiments, the
investigator did not find any significant interactive effect of personality and intelligence on learning and memory. In sum, first four hypotheses were verified and fifth hypothesis was partially verified but the last hypothesis was not supported.