CHAPTER-IV

ANALYSIS AND INTERPRETATION

After the collection of data, analysis and interpretation is the foremost and essential step of the research work. So it is the necessary duty of the investigator to turn her full attention to analysis and interpretation of the accumulated data. In fact the raw scores are of no value unless they are analyzed and interpreted. Without interpreting the data collected through the tools, the investigator can’t be able to achieve her objectives. Therefore, it is necessary to get a meaningful picture out of the raw data collected by the investigator for the present study. Analysis of data means studying the organized data in order to discover existing fact. The data is also studied to explore the new facts. Analysis requires alert, flexible and open mind. It involves the breaking down the existing complex factor into simple part and putting these simple parts together in new arrangement for the purpose of the interpretation. The main purpose of the interpretation is to reach for broader meaning of desired answer.

Analysis of data is the most important and crucial step in educational research from which the result can be steamed out. After the data has been collected, it must be processed and analyzed to draw proper inferences. The purpose of analysis is to reduce data into intelligible and interpretable form and to find out the relationship between variables which leads to the verification of hypotheses, so that the relation between research problems can be studied and tested. Infact, the tabulated data are meaningless heap of material without analysis and interpretation. This is achieved by relevant statistical techniques. After analysis the next step is the process of interpretation which is especially for explaining what the result shows or to reach the significant conclusion. Good, Barr and Scats (1941) suggested following helpful models to get started on analyzing the gathered data.

(1) To think in terms of significant tables that the data permits.
(2) To examine carefully the statement of the problem and earlier analysis and to study the original data.

(3) To get away from the data and to think about the problem in layman’s term or to actually discover the problem with other.

These exploratory modes may prove very helpful in the analysis of data for every researcher. The potent objective of the present study was to assess the relationship among various variable like socio-psychological correlates, learning-thinking style and creativity of secondary school students. Data for the same were collected through different tools and then analyzed statistically. The analyses of all the data have been presented below.

**IMPACT OF SOCIO-PSYCHOLOGICAL CORRELATES ON LEARNING-THINKING STYLE OF CREATIVITY OF SECONDARY SCHOOL STUDENTS**

The socio-psychological correlate is a variable which is taken as an independent variable includes the variable like: Socio – includes socio-economic status and Psychological correlates – includes personality variables. Data related to socio variable and psychological variable collected separately by using separate tools. The whole data constitutes socio-psychological variables. The impact of this independent variable was seen on different dependent variables like learning-thinking style and creativity separately. And the collected data have been analyzed separately which are discussed under following sections: Section-A is based on the analysis related to socio-economic status and learning-thinking style, Section-B is based on the analysis related to socio-economic status and creativity, Section-C is based on the analysis related to personality and learning-thinking style and Section-D is based on the analysis related to personality and creativity.

**SECTION-A**

**4.1 ANALYSIS RELATED TO SOCIO-PSYCHOLOGICAL CO-RELATES AND LEARNING-THINKING STYLE**

In order to interpret the results the data were analyzed with the help of correlation and ‘t’ test. Correlation was calculated in order to see the relationship
between socio-economic status and learning-thinking style of secondary school students. Further critical ratio was calculated to find out difference between the learning-thinking style of secondary school students belonging to above average and below average group of socio-economic status. While analyzing the data boys and girls and students of rural and urban secondary schools were also taken into consideration.

4.1.1 Correlation between Socio-Economic Status and Learning-Thinking Style of Secondary School Students:

One of the objectives of the current study was to investigate the relationship between the socio-economic status and learning-thinking style of secondary school students. For assessing the relationship Pearson’s product moment co-relation was applied, the data obtained from the same have been given vide Table 4.1.

Table 4.1

Correlation between Socio-Economic Status (A) and Learning-Thinking Style (B) of Secondary School Students

<table>
<thead>
<tr>
<th>Technique</th>
<th>Groups</th>
<th>A</th>
<th>B</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Moment Correlation</td>
<td>A</td>
<td>1.000</td>
<td>0.145</td>
<td>Significant at 0.05 level</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>0.145</td>
<td>1.000</td>
<td></td>
</tr>
</tbody>
</table>

Interpretation

The table 4.1 shows that the calculated correlation value 0.145 between socio-economic status and learning-thinking style of secondary school students is significant at 0.05 level of significance. It means that there exists positive and significant relationship between socio-economic status and learning-thinking style of secondary school students. Hence the Hypothesis (1.1) formulated earlier i.e. “There exists no significant relationship between socio-economic status and learning-thinking style of secondary school students”, is not retained or rejected.
4.1.2 Significance of Difference between Learning-Thinking Style of secondary school students belonging to above average group and below average group of Socio-Economic Status.

In order to measure the significance of difference between the learning-thinking style of secondary school students belonging to above and below average group of socio-economic status, the critical ratio was calculated. The data for the same is presented vide table 4.2.

Table 4.2

Significance of Difference between Learning-Thinking Style of secondary school students belonging to Above Average Socio-Economic Status group (A₁B) and Below Average Socio-Economic Status group (A₂B)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.E Md</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A₁B</td>
<td>418</td>
<td>31.42</td>
<td>7.473</td>
<td>0.712</td>
<td>7.597</td>
<td>Significant*</td>
</tr>
<tr>
<td>A₂B</td>
<td>182</td>
<td>26.01</td>
<td>7.566</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level
2.58 at .01 level

Interpretation

The above table reveals that Mean and Standard Deviation of the group A₁B are 31.42 and 7.473 respectively and of group A₂B are 26.01 and 7.566 respectively. Standard error of the mean difference is 0.712. The ‘t’ ratio of their means is 7.597, which is more than both the significant levels. So, the ‘t’ ratio is significant at both 0.05 and 0.01 levels of significance. It means that there exists a significant difference between learning thinking style of secondary school students belonging to above average and below average group of socio-economic status. Therefore, the null hypothesis (H₁,₂) formulated earlier i.e. “There exists no significant difference between learning-thinking style of secondary school students belonging to above average socio-economic status and below average socio-economic status group”, is not retained.
Again the mean scores of the learning-thinking style of secondary school students belonging to above average socio-economic status group is higher than the mean scores of the learning thinking style of secondary school students belonging to below average socio-economic status group. It means that socio-economic status has its impact on learning-thinking style of secondary school students or in other words, Socio-Economic Status leads to develop learning-thinking Style of Senior Secondary School students.

**Fig. 4.1**

Graphical representation of the Difference between the mean score and S.D. of Students belonging to Above Average and Below Average Socio-Economic Status group

![Graphical representation](image-url)
4.1.3 Significance of Difference between Learning-Thinking Style of Boys and Girls of secondary schools.

In order to assess the significance of difference between the learning-thinking style of boys and girls of secondary schools, the critical ratio was calculated. The data for the same are presented vide table 4.3.

**Table 4.3**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.E. Md</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>B₁</td>
<td>300</td>
<td>28.30</td>
<td>8.122</td>
<td>0.958</td>
<td>2.224</td>
<td>Significant*</td>
</tr>
<tr>
<td>B₂</td>
<td>300</td>
<td>30.43</td>
<td>8.200</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level  
2.58 at .01 level

**Interpretation**

The above table shows that there exists significant difference between learning-thinking style of boys and girls of secondary schools. Mean and standard deviation of the group B₁ are 28.30 and 8.122 respectively and of group B₂ are 30.43 and 8.200 respectively. Standard error of the mean difference is 0.958. The ‘t’ ratio of their means is 2.224, which is more than 0.05 level of significance. So, the ‘t’ ratio is significant at 0.05 level. It means that there exists a significant different between learning thinking style of boys and girls of secondary school students. Therefore, the null hypothesis (H₁,3) formulated earlier i.e. “There exists no significant difference between learning-thinking style of boys and girls of secondary schools”, is not retained.

Again the mean scores of the learning-thinking style of girls of secondary schools is higher than the mean scores of the learning thinking style of boys of secondary schools. It means that the girls are more influenced by Socio-economic status than the boys in the aspect of learning-thinking style.
Fig. 4.2

Graphical representation of the Difference between Mean and S.D. of Learning-Thinking Style of Boys and Girls of Secondary Schools
4.1.4 Significance of Difference between Learning-Thinking Style of Urban secondary school students and rural secondary school students.

In order to examine the significance of difference between the learning-thinking style of urban and rural secondary schools students, the critical ratio was calculated. The data for the same are presented under the following table.

**Table 4.4**

**Significance of Difference between Learning-Thinking Style of Urban (B₃) and Rural students (B₄) of secondary schools**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.E_Md</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>B₃</td>
<td>300</td>
<td>30.29</td>
<td>6.57</td>
<td>0.969</td>
<td>6.193</td>
<td>Significant*</td>
</tr>
<tr>
<td>B₄</td>
<td>300</td>
<td>24.29</td>
<td>7.03</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level  
2.58 at .01 level

**Interpretation**

The above table depicts that Mean and Standard Deviation of the group B₃ are 30.29 and 6.57 respectively and of group B₄ are 24.29 and 7.03 respectively. Standard error of the mean difference is 0.969. The ‘t’ ratio of their means is 6.193, which is more than both table value of significant levels. So, the ‘t’ ratio is significant at both 0.05 and 0.01 levels of significance. It means that there exists a significant difference between learning-thinking style of urban and rural secondary school students. Therefore, the null hypothesis (H₁₄) formulated earlier i.e. “**There exists no significant difference between learning-thinking style of rural and urban students of secondary schools**”, is not retained.

Again the mean scores of the learning-thinking style of urban secondary school students is higher than the mean scores of the learning thinking style of rural secondary school students. It means that learning-thinking style has its impact on demographic variable of secondary schools.
Fig. 4.3

Graphical representation of the Difference between Mean and S.D. of Learning-Thinking Style of Urban and Rural students of secondary schools

Mean S.D.
Urban Rural

- Mean: 30.29 (Urban), 24.29 (Rural)
- S.D.: 6.57 (Urban), 7.03 (Rural)
SECTION-B

4.2 ANALYSIS RELATED TO SOCIO-ECONOMIC STATUS AND CREATIVITY

In order to interpret these results the data were analyzed with the help of correlation and ‘t’ test. Correlation was calculated in order to see the relationship between socio-economic status and creativity of secondary school students. Further critical ratio was calculated to find out difference between the creativity of secondary school students belonging to above average and below average group socio-economic status while analyzing the data boys and girls of secondary schools and students belonging to rural and urban schools were also taken into consideration.

4.2.1 Correlation between Socio-Economic status and Creativity of secondary school students:

One of the objectives of the current study is to investigate the relationship between the socio-economic status and creativity of secondary school students. For assessing the relationship Pearson’s product moment co-relation was applied, the data obtained from the same have been given under Table 4.5.

Table 4.5

<table>
<thead>
<tr>
<th>Technique</th>
<th>Groups</th>
<th>A</th>
<th>C</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Moment Correlation</td>
<td>A</td>
<td>1.000</td>
<td>-0.027</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>-0.027</td>
<td>1.000</td>
<td></td>
</tr>
</tbody>
</table>

Interpretation

The table 4.5 shows that the calculated co-relation value 0.027 between socio-economic status and creativity of secondary school students is not significant at any level of significance. It means that there exists no significant relationship between socio-economic status and creativity of secondary school students. Hence the hypothesis (2.1) formulated earlier i.e. “There exists no significance relationship between socio-economic status and creativity of secondary school students”, is retained or accepted.
4.2.2 Significance of Difference between Creativity of secondary school students belonging to Above Average group and Below Average group of Socio-Economic Status.

In order to find out the significance of difference between the creativity of secondary school students belonging to above average group and below average group of socio-economic status, the critical ratio was calculated. The data for the same are presented vide table 4.6.

**Table 4.6**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.E_Md</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A3C</td>
<td>418</td>
<td>138.167</td>
<td>27.323</td>
<td>2.494</td>
<td>1.60</td>
<td>Not Significant</td>
</tr>
<tr>
<td>A4C</td>
<td>182</td>
<td>133.195</td>
<td>28.696</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level
2.58 at .01 level

**Interpretation**

The above table shows that Mean and Standard Deviation of the group A3C are 138.167 and 27.323 respectively and of group A4C are 133.195 and 28.696 respectively. Standard error of the mean difference is 2.494. The ‘t’ ratio of their means is 1.60, which is less than the both significant levels. So, the ‘t’ ratio is insignificant at both 0.05 and 0.01 levels. It means that there exists no significant difference between creativity of secondary school students belonging to above average group and below average group of socio-economic status. Therefore, the null hypothesis (H2.2) formulated earlier i.e. “There exists no significant difference between creativity of secondary school students belonging to above average group of socio-economic status and below average socio-economic status group”, is retained. It means that Socio-economic status does not have any impact on creativity of secondary school students.
Fig. 4.4
Graphical representation of the Difference between Mean and S.D. of Above Average and Below Average Socio-Economic Status Group

<table>
<thead>
<tr>
<th>Category</th>
<th>Above Average</th>
<th>Below Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>138.167</td>
<td>133.195</td>
</tr>
<tr>
<td>S.D.</td>
<td>27.323</td>
<td>28.696</td>
</tr>
</tbody>
</table>
4.2.3 Significance of Difference between Creativity of Boys and Girls of secondary schools.

In order to verify the significance of difference between the creativity of boys and girls of secondary schools, the critical ratio was calculated. The data for the same are presented vide table 4.7.

Table 4.7

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S_EMd</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>C₁</td>
<td>300</td>
<td>132.96</td>
<td>26.67</td>
<td>1.941</td>
<td>4.416</td>
<td>Significant*</td>
</tr>
<tr>
<td>C₂</td>
<td>300</td>
<td>147.86</td>
<td>25.73</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level
2.58 at .01 level

Interpretation

The above table shows that there exists significant difference between creativity of boys and girls of secondary schools. Mean and Standard Deviation of the group C₁ are 132.96 and 26.67 respectively and of group C₂ are 147.86 and 25.73 respectively. Standard error of the mean difference is 1.941. The ‘t’ ratio of their means is 4.416, which is more than the table value at both levels of significance. So, the ‘t’ ratio is significant at both 0.01 and 0.05 levels. Therefore, the null hypothesis (H₂₃) formulated earlier i.e. “There exists no significant difference between creativity of boys and girls of secondary schools”, is not retained.

Further the mean score of the creativity of girls is much higher than that of boys of secondary schools. It means that girls are more creative than boys at secondary level. In other words, it can be said that gender is a factor which influences creativity among the secondary school students.
Fig. 4.5

Graphical representation of the Difference between Mean and S.D. of Creativity of Boys and Girls of secondary schools
4.2.4 Significance of Difference between Creativity of Rural and Urban secondary school students.

In order to find out the significance of difference between the Creativity of rural and urban secondary school students, the critical ratio was calculated. The data for the same are presented table 4.8.

Table 4.8  
Significance of Difference between Creativity of Rural (C₃) and Urban (C₄) secondary school students

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.E Md</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>C₃</td>
<td>300</td>
<td>142.970</td>
<td>30.129</td>
<td>3.50</td>
<td>3.954</td>
<td>Significant*</td>
</tr>
<tr>
<td>C₄</td>
<td>300</td>
<td>156.830</td>
<td>23.092</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level  
2.58 at .01 level

Interpretation

The above table shows that there exists significant difference between creativity of rural and urban secondary school students. Mean and Standard Deviation of the group C₃ are 142.970 and 30.129 respectively and of group C₄ are 156.830 and 23.092 respectively. Standard error of the mean difference is 3.50. The ‘t’ ratio of their means is 3.954, which is more than the table value of both the significant levels. So, the ‘t’ ratio is significant at both 0.05 and 0.01 levels. Therefore, the null hypothesis (H₂₄) formulated earlier i.e. “There exists no significant difference between creativity of rural and urban students of secondary schools”, is not retained.

Again the mean scores of the creativity of urban students of secondary schools is much higher than that of rural students of secondary school students. It means that urban students are more creative than the rural secondary school students. In other words if can be said that the demographic variable like area influences the creativity among secondary school students.
Fig. 4.6
Graphical representation of the Difference between Mean and S.D. of Creativity of Rural and Urban secondary school students
SECTION-C

4.3 ANALYSIS RELATED TO PERSONALITY AND LEARNING-THINKING STYLE

In order to interpret the results, the data were analyzed with the help of correlation and ‘t’ test. Correlation was calculated in order to see the relationship between personality and learning-thinking style of secondary school students. Further critical ratio was calculated to find out difference between the learning-thinking style of secondary school students belonging to various groups of personality traits.

4.3.1 Correlation between Personality and Learning-Thinking Style of secondary school students:

One of the objectives of the current study was to investigate the relationship between the Personality and Learning-Thinking Style of secondary school students. For assessing the relationship Pearson’s product moment co-relation was applied, the data obtained from the same have been given vide Table 4.9.

<table>
<thead>
<tr>
<th>Technique</th>
<th>Groups</th>
<th>D</th>
<th>B</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Moment Correlation</td>
<td>D</td>
<td>1.000</td>
<td>0.147</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>0.147</td>
<td>1.000</td>
<td></td>
</tr>
</tbody>
</table>

Interpretation

The table 4.9 shows that the calculated correlation value 0.147 between personality and learning-thinking style of secondary school students is significant at 0.01 level of significance. It means that there exists positive and significant relationship between personality and learning-thinking style of the students. Hence the hypothesis (3.1) formulated earlier i.e. “There exists no significance relationship between personality and learning-thinking style of secondary school students”, is not retained or rejected.
4.3.2 Significance of Difference between Learning-Thinking Style of secondary school students belonging to Activity and Passivity Group of Personality Traits.

In order to examine the significance of difference between the learning-thinking style of secondary school students belonging to activity and passivity group of personality traits, the critical ratio was calculated. The data for the same are presented vide table 4.10.

**Table 4.10**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.Emd</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1B</td>
<td>413</td>
<td>34.77</td>
<td>8.86</td>
<td>1.06</td>
<td>3.765</td>
<td>Significant*</td>
</tr>
<tr>
<td>D2B</td>
<td>187</td>
<td>28.31</td>
<td>12.29</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level
2.58 at .01 level

**Interpretation**

The above table shows that there exists significant difference between learning thinking style of secondary school students belonging to activity and passivity group of personality traits. Mean and Standard Deviation of the group D1B are 34.77 and 8.86 respectively and of group D2B are 28.31 and 12.29 respectively. Standard error of the mean difference is 1.06. The ‘t’ ratio of their means is 3.765, which is more than the table value at both the significant levels. So, the ‘t’ ratio is significant at both 0.05 and 0.01 levels. Therefore, the null hypothesis (H3.2) formulated earlier i.e. “There exists no significant difference between learning-thinking style of secondary school students belonging to activity and passivity groups of personality traits”, is not retained.

Further the students belonging to activity group of personality traits have higher mean scores than that of passivity group of personality traits. It means that the
students belonging to activity group of personality traits have better learning-thinking style than the students belonging to passivity group of personality trait. It can be said that personality factor has its impact on learning-thinking style of secondary school students.

**Fig. 4.7**

Graphical representation of the Difference between Mean and S.D. of Learning-Thinking Style of secondary school students belonging to Activity Group of Personality Traits and Passivity Group of Personality Traits.
4.3.3 Significance of Difference between Learning-Thinking Style of secondary school students belonging to Enthusiastic and Non-Enthusiastic Group of Personality Traits.

In order to look into the significance of difference between the learning-thinking style of secondary school students belonging to enthusiastic and non-enthusiastic group of personality traits, the critical ratio was calculated. The data for the same have been presented vide table 4.11.

Table 4.11

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.E_Md</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>D3B</td>
<td>478</td>
<td>33.414</td>
<td>9.66</td>
<td>1.156</td>
<td>3.646</td>
<td>Significant*</td>
</tr>
<tr>
<td>D4B</td>
<td>132</td>
<td>27.280</td>
<td>11.51</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level
2.58 at .01 level

Interpretation

The above table shows that there exists significant difference between learning thinking style of secondary school students belonging to enthusiastic and non-enthusiastic group of personality traits. Mean and Standard Deviation of the group D3B are 33.414 and 9.66 respectively and of group D4B are 27.280 and 11.51 respectively. Standard error of the mean difference is 1.156. The ‘t’ ratio of their means is 3.646, which is more than the table value at both significant levels. So, the ‘t’ ratio is significant at both 0.05 and 0.01 levels. Therefore, the null hypothesis (H3.3) formulated earlier i.e. “There exists no significant difference between learning-thinking style of secondary school students belonging to enthusiastic and non-enthusiastic groups of personality traits”, is not retained. Further the students belonging to enthusiastic group of personality traits have higher mean scores than that of non-enthusiastic group of personality traits. It shows that student having
enthusiastic personality have better learning thinking style than that of the student having non-enthusiastic personality.

Fig. 4.8

Graphical representation of the Difference between Mean and S.D. of Learning-Thinking Style of secondary school students belonging to Enthusiastic Group of Personality Traits and Non-Enthusiastic Group of Personality Traits
4.3.4 Significance of Difference between Learning-Thinking Style of secondary school students belonging to Assertive and Submissive Group of Personality Traits.

In order to assess the significance of difference between the learning-thinking style of secondary school students belonging to assertive and submissive group of personality traits, the critical ratio was calculated. The data for the same are presented vide table 4.12.

Table 4.12
Significance of Difference between Learning-Thinking Style of secondary school students belonging to Assertive Group of Personality Traits (D₃B) and Submissive Group of Personality Traits (D₆B)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.EMd</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>D₃B</td>
<td>381</td>
<td>33.50</td>
<td>9.51</td>
<td>1.136</td>
<td>1.41</td>
<td>Not Significant</td>
</tr>
<tr>
<td>D₆B</td>
<td>219</td>
<td>32.86</td>
<td>10.32</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level
2.58 at .01 level

Interpretation

Table 4.12 shows that Mean and Standard Deviation of the group D₃B are 33.50 and 9.51 respectively and of group D₆B are 32.86 and 10.32 respectively. Standard error of the mean difference is 1.136. The ‘t’ ratio of their means is 1.41, which is less than the given table values at both the significant levels. So, the ‘t’ ratio is not significant at both 0.05 and 0.01 levels. It means that there exists no significant difference between learning thinking style of secondary school students belonging to assertive and submissive group of personality traits. Therefore, the null hypothesis (H₃.₄) formulated earlier i.e. “There exists no significant difference between learning-thinking style of secondary school students belonging to assertive and submissive groups of personality traits”, is retained or accepted.

Again there is no much differences both mean score of two groups. It means that assertive and submissive personality traits do not have any impact on LTS of Secondary School Students.
Fig. 4.9
Graphical representation of the Difference between Mean and S.D. of Learning-Thinking Style of secondary school students belonging to Assertive Group of Personality Traits and Submissive Group of Personality Traits
4.3.5 Significance of Difference between Learning-Thinking Style of secondary school students belonging to Suspicious Group and Trusting Group of Personality Traits.

In order to examine the significance of difference between the learning-thinking style of secondary school students belonging to suspicious and trusting group of personality traits, the critical ratio was calculated. The data for the same have been presented vide table 4.13.

Table 4.13
Significance of Difference between Learning-Thinking Style of secondary school students belonging to Suspicious Group of Personality Traits (D7B) and Trusting Group of Personality Traits (D8B)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.E_Md</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>D7B</td>
<td>181</td>
<td>25.42</td>
<td>12.37</td>
<td>1.24</td>
<td>3.871</td>
<td>Significant*</td>
</tr>
<tr>
<td>D8B</td>
<td>419</td>
<td>32.42</td>
<td>10.39</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level

2.58 at .01 level

Interpretation

The above table shows that Mean and Standard Deviation of the group D7B are 25.42 and 3.871 respectively and of group D8B are 32.42 and 10.39 respectively. Standard error of the mean difference is 1.24. The ‘t’ ratio of their means is 3.871, which is more than the table value at both the significant levels. So, the ‘t’ ratio is significant at both 0.05 and 0.01 levels. It means that there exists significant difference between learning thinking style of secondary school students belonging to suspicious and trusting group of personality traits. Therefore, the null hypothesis (H3.5) formulated earlier i.e. “There exists no significant difference between learning-thinking style of secondary school students belonging to suspicious and trusting groups of personality traits”, is not retained.

Further, the students belonging to trusting group of personality traits have more mean scores than that of suspicious group of personality traits. It means that students having trusting personality have better learning-thinking style than that of the
students having suspicious personality. It can be concluded that suspicious and trusting personality influences learning-thinking style of secondary school students.

**Fig. 4.10**

Graphical representation of the Difference between Mean and S.D. of Learning-Thinking Style of secondary school students belonging to Suspicious Group of Personality Traits and Trusting Group of Personality Traits
4.3.6 Significance of Difference between Learning-Thinking Style of secondary
school students belonging to Depressive and Non-Depressive Group of
Personality Traits.

In order to assess the significance of difference between the learning-thinking
style of secondary school students belonging to depressive and non-depressive group
of personality traits, the critical ratio was calculated. The data for the same was
presented vide table 4.1.

Table 4.14
Significance of Difference between Learning-Thinking Style of secondary school
students belonging to Depressive Group of Personality Traits (D9B) and Non-
Depressive Group of Personality Traits (D10B)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.E M</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>D9B</td>
<td>177</td>
<td>33.11</td>
<td>10.26</td>
<td>1.23</td>
<td>2.409</td>
<td>Significant*</td>
</tr>
<tr>
<td>D10B</td>
<td>423</td>
<td>29.54</td>
<td>8.96</td>
<td>1.23</td>
<td>2.409</td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level

2.58 at .01 level

Interpretation

The above table shows that there exists significant difference between learning
thinking style of secondary school students belonging to depressive and non-
depressive group of personality traits. Mean and Standard Deviation of the group D9B
are 33.11 and 10.26 respectively and of group D10B are 29.54 and 8.96 respectively.
Standard error of the mean difference is 1.23. The ‘t’ ratio of their means is 2.409,
which is more than the table value at .05 level of significance. So, the ‘t’ ratio is
significant at 0.05 level. Therefore, the null hypothesis (H3.6) formulated earlier i.e.
“There exists no significant difference between learning-thinking style of
secondary school students belonging to depressive and non-depressive groups of
personality traits”, is not retained. It can be said that the students belonging to non-
depressive group of personality traits have better learning-thinking style than that of
depressive group of personality traits. It means that depressive and non-depressive personality traits influence the learning-thinking of secondary school students.

**Fig. 4.11**

Graphical representation of the Difference between Mean and S.D. of Learning-Thinking Style of secondary school students belonging to Depressive Group of Personality Traits and Non-Depressive Group of Personality Traits.
4.3.7 Significance of Difference between Learning-Thinking Style of secondary school students belonging to Emotional Instability and Emotional Stability Group of Personality Traits.

In order to assess the significance of difference between the learning-thinking style of secondary school students belonging to emotional instability and emotional stability group of personality traits, the critical ratio was calculated. The data for the same are presented vide table 4.15.

Table 4.15
Significance of Difference between Learning-Thinking Style of secondary school students belonging to Emotional Instability Group of Personality Traits (D₁₁B) and Emotional Stability Group of Personality Traits (D₁₂B)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.E Md</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>D₁₁B</td>
<td>229</td>
<td>30.39</td>
<td>12.51</td>
<td>1.250</td>
<td>2.901</td>
<td>Significant*</td>
</tr>
<tr>
<td>D₁₂B</td>
<td>371</td>
<td>35.43</td>
<td>8.83</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level
    2.58 at .01 level

Interpretation

The above table shows that there exists significant difference between learning thinking style of secondary school students belonging to emotional instability and emotional stability group of personality traits. Mean and Standard Deviation of the group D₁₁B are 30.39 and 12.51 respectively and of group D₁₂B are 35.43 and 8.83 respectively. Standard error of the mean difference is 1.250. The ‘t’ ratio of their means is 2.901, which is more than the table value at both 0.05 and 0.01 levels of significance. So, the ‘t’ ratio is significant at both levels. Therefore, the null hypothesis (H₃.7) formulated earlier i.e. “There exists no significant difference between learning-thinking style of secondary school students belonging to emotional instability and emotional stability groups of personality traits”, is not retained.
Further the students belonging to emotional stability group of personality traits have more mean scores than that of emotional instability group of personality traits. It means the students belonging to emotional stability personality have better learning-thinking style than that of students belonging to emotional instability personality. It can be said that emotional stability and emotion instability personality traits influence the learning-thinking of secondary school students.

**Fig. 4.12**

**Graphical representation of the Difference between Mean and S.D. of Learning-Thinking Style of secondary school students belonging to Emotional Instability Group of Personality Traits and Emotional Stability Group of Personality Traits**
SECTION-D

4.4 ANALYSIS RELATED TO PERSONALITY AND CREATIVITY

In order to interpret the results the data were analyzed with the help of correlation and ‘t’ test. Correlation was calculated in order to see the relationship between personality and creativity of secondary school students. Further critical ratio was calculated to find out difference between the creativity of secondary school students belonging to various groups of personality traits.

4.4.1 Correlation between Personality and Creativity of secondary school students:

One of the objectives of the current study was to investigate the relationship between the personality and creativity of secondary school students. For assessing the relationship Pearson’s product moment correlation was applied, the data obtained from the same have been given vide Table 4.16.

| Table 4.16 |
| Correlation between Personality (D) and Creativity (C) |

<table>
<thead>
<tr>
<th>Technique</th>
<th>Groups</th>
<th>D</th>
<th>C</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Moment</td>
<td>D</td>
<td>1.00</td>
<td>0.259</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Correlation</td>
<td>C</td>
<td>0.259</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

Interpretation

The table 4.16 shows that the correlation value are 0.259 between personality and creativity of secondary school students is significant at 0.01 level of significance. It means that there exists positive and significant relationship between personality and creativity of the students. Hence the Hypothesis (4.1) “There exists no significance relationship between personality and creativity of secondary school students”, which was framed earlier is rejected.
4.4.2 Significance of Difference between Creativity of secondary school students belonging to Activity and Passivity Group of Personality Traits.

In order to access the significance of difference between the creativity of secondary school students belonging to activity and passivity group of personality traits, the critical ratio was calculated. The data for the same are presented vide table 4.17.

**Table 4.17**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.Emd</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>D₁C</td>
<td>413</td>
<td>109.128</td>
<td>22.27</td>
<td>2.381</td>
<td>1.200</td>
<td>Not Significant</td>
</tr>
<tr>
<td>D₂C</td>
<td>187</td>
<td>104.790</td>
<td>23.85</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level
2.58 at .01 level

**Interpretation**

The above table shows that there does not exist significant difference between creativity of secondary school students belonging to activity and passivity group of personality traits. Mean and Standard Deviation of the group D₁C are 109.128 and 22.27 respectively and of group D₂C are 104.790 and 23.85 respectively. Standard error of the mean difference is 2.381. The ‘t’ ratio of their means is 1.200 which is less than both the significant levels. So, the ‘t’ ratio i.e. not significant at both 0.05 and 0.01 levels. Therefore, the null hypothesis (H₄.2), “There exists no significant difference between creativity of secondary school students belonging to activity and passivity group of personality traits”, which was formulated earlier is accepted. It means that activity and passivity personality has no impact on learning thinking style of secondary school students.
Graphical representation of the Difference between Mean and S.D. of Creativity of secondary school students belonging to Activity group of Personality Traits and Passivity Group of Personality Traits.
4.4.3 Significance of Difference between Creativity of secondary school students belonging to Enthusiastic and Non-Enthusiastic Group of personality traits.

In order to access the significance of difference between the creativity of secondary school students belonging to enthusiastic and non-enthusiastic group of personality traits, the critical ratio was calculated. The data for the same are presented vide table 4.18.

Table 4.18

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.E_Md</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>D3C</td>
<td>478</td>
<td>113.026</td>
<td>20.68</td>
<td>2.34</td>
<td>2.478</td>
<td>Significant at 0.05 level</td>
</tr>
<tr>
<td>D4C</td>
<td>132</td>
<td>104.825</td>
<td>22.59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level
2.58 at .01 level

Interpretation

The above table shows that there exists significant difference between creativity of secondary school students belonging to enthusiastic and non-enthusiastic group of personality traits. Mean and Standard Deviation of the group D3C are 113.026 and 20.68 respectively and of group D4C are 104.825 and 22.59 respectively. Standard error of the mean difference is 2.34. The ‘t’ ratio of their means is 2.478, which is more than the table value at 0.05 level of significance. So, the ‘t’ ratio is significant at 0.05 level. Therefore, the null hypothesis (H4.3) i.e. framed earlier, “There exists no significant difference between creativity of secondary school students belonging to enthusiastic and non-enthusiastic group of personality traits”, is not retained.

Further the mean score of creativity of secondary school students belonging to enthusiastic group of personality traits is higher than the mean score of the non-
enthusiastic group of personality traits. It means that enthusiastic and non-enthusiastic personality traits leads to creativity of secondary school students.

**Fig. 4.14**

Graphical Representation of the Difference between Mean and S.D. of Creativity of secondary school students belonging to Enthusiastic Group of Personality Traits and Non-Enthusiastic Group of Personality Traits
4.4.4 Significance of Difference between Creativity of secondary school students belonging to Assertive and Submissive Group of Personality Traits.

In order to find out the significance of difference between the creativity of secondary school students belonging to assertive and submissive group of personality traits, the critical ratio was calculated. The data for the same are presented vide table 4.19.

Table 4.19

Significance of Difference between Creativity of secondary school students belonging to Assertive Group of Personality Traits (D₅C) and Submissive Group of Personality Traits (D₆C)

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.Eₘd</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>D₅C</td>
<td>381</td>
<td>132.656</td>
<td>26.66</td>
<td>2.566</td>
<td>1.093</td>
<td>Not Significant</td>
</tr>
<tr>
<td>D₆C</td>
<td>219</td>
<td>128.500</td>
<td>22.66</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level
2.58 at .01 level

Interpretation

The table no. 4.19 shows that there exists no significant difference between creativity of secondary school students belonging to assertive and submissive group of personality traits. Mean and Standard Deviation of the group D₅C are 132.656 and 26.66 respectively and of group D₆C are 128.500 and 22.66 respectively. Standard error of the mean difference is 2.566. The ‘t’ ratio of their means is 1.093, which is less than the table value at both levels of significance. So, the ‘t’ ratio is not significant at both 0.05 and 0.01 levels. Therefore, the null hypothesis (H₄₄) i.e. framed earlier, “There exists no significant difference between creativity of secondary school students belonging to assertive and submissive group of personality traits”, is accepted. It shows that there exists no significant difference between the creativity of secondary school students belonging to assertive and submissive group of personality traits. It means that assertive and submissive groups
of personality traits does not have any impact on the creativity of secondary school students.

Fig. 4.15

Graphical representation of the Difference between Mean and S.D. of Creativity of secondary school students belonging to Assertive Group of Personality Traits and Submissive Group of Personality Traits

![Graphical representation of the Difference between Mean and S.D. of Creativity of secondary school students belonging to Assertive Group of Personality Traits and Submissive Group of Personality Traits](image-url)
4.4.5 Significance of Difference between Creativity of secondary school students belonging to Suspicious and Trusting Group of Personality Traits.

In order to look into the significance of difference between the creativity of secondary school students belonging to suspicious and trusting group of personality traits, the critical ratio was calculated. The data for the same have been presented vide table 4.20.

Table 4.20

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.E_{Md}</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>D_{7C}</td>
<td>181</td>
<td>108.500</td>
<td>22.66</td>
<td>2.566</td>
<td>5.215</td>
<td>Significant*</td>
</tr>
<tr>
<td>D_{8C}</td>
<td>419</td>
<td>129.000</td>
<td>28.15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level
2.58 at .01 level

Interpretation

The above table reveals that there exists significant difference between learning thinking style of secondary school students belonging to suspicious and trusting group of personality traits. Mean and Standard Deviation of the group D_{7C} are 108.500 and 22.66 respectively and of group D_{8C} are 129.000 and 28.15 respectively. Standard error of the mean difference is 2.566. The ‘t’ ratio of their means is 5.215, which is much more than the table value at both the level of significance. So, the ‘t’ ratio is significant at both 0.05 and 0.01 levels. Therefore, the null hypothesis (H_{4.5}) i.e. formulated earlier, “There exists no significant difference between creativity of secondary school students belonging to suspicious and trusting group of personality traits”, is rejected.

Further the students belonging to trusting group of personality traits have mean scores which is higher than that of suspicious group of personality traits. It shows a significant difference between the both the personality traits. It further
depicts that the mean score of the creativity of students belonging to trusting group of personality traits is much higher than the mean score of the creativity of students belonging to suspicious group of personality traits. It means that trusting group of personality traits and suspicious group of personality traits influence creativity of secondary school students.

**Fig. 4.16**

Graphical representation of the Difference between Mean and S.D. of Creativity of secondary school students belonging to Suspicious Group of Personality Traits and Trusting Group of Personality Traits
### 4.4.6 Significance of Difference between Creativity of secondary school students belonging to Depressive and Non-Depressive Group of Personality Traits.

In order to assess the significance of difference between the creativity of secondary school students belonging to depressive and non-depressive group of personality traits, the critical ratio was calculated. The data for the same are presented vide table 4.21.

**Table 4.21**

**Significance of Difference between Creativity of secondary school students belonging to Depressive Group of Personality Traits (D9C) and Non-Depressive Group of Personality Traits (D10C)**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.EMd</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>D9C</td>
<td>177</td>
<td>120.134</td>
<td>20.25</td>
<td>13.147</td>
<td>3.46</td>
<td>Significant*</td>
</tr>
<tr>
<td>D10C</td>
<td>423</td>
<td>124.282</td>
<td>24.11</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level
2.58 at .01 level

**Interpretation**

The above table reveals that Mean and Standard Deviation of the group D9C are 120.134 and 20.25 respectively and of group D10C are 124.282 and 24.11 respectively. Standard error of the mean difference is 13.147. The ‘t’ ratio of their means is 3.46, which is more than both 0.05 and 0.01 significant levels. So, the ‘t’ ratio is significant at 0.05 and 0.01 levels. Therefore, it means there exists significant difference between creativity of secondary school students belonging to depressive and non-depressive group of personality traits. Therefore, the null hypothesis (H4.6) i.e. formulated earlier, “There exists no significant difference between creativity of secondary school students belonging to depressive and non-depressive group of personality traits”, is not retained.

Further the mean score of the creativity of students belonging to non-depressive group of personality traits the mean scores is higher than that of depressive
group of personality traits. It means that this dimension of personality traits influences creativity of secondary school students.

Fig. 4.17

Graphical representation of the Difference between Mean and S.D. of Creativity of secondary school students belonging to Depressive Group of Personality Traits and Non-Depressive Group of Personality Traits
4.4.7 Significance of Difference between Creativity of secondary school students belonging to Emotional Instability and Emotional Stability Group of Personality Traits.

In order to measure the significance of difference between the creativity of secondary school students belonging to emotional instability and emotional stability group of personality traits, the critical ratio was calculated. The data for the same have been presented vide table 4.22.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>S.EMd</th>
<th>‘t’ value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>D₁₁C</td>
<td>229</td>
<td>117.667</td>
<td>19.17</td>
<td>2.170</td>
<td>1.434</td>
<td>Not Significant</td>
</tr>
<tr>
<td>D₁₂C</td>
<td>371</td>
<td>122.021</td>
<td>20.58</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table Value : 1.96 at .05 level
2.58 at .01 level

Interpretation

The above table depicts that Mean and Standard Deviation of the group D₁₁C are 117.667 and 19.17 respectively and of group D₁₂C are 122.021 and 20.58 respectively. Standard error of the mean difference is 2.170. The ‘t’ ratio of their means is 1.434, which is less than the table values at both 0.05 and 0.01 levels of significance. So, the ‘t’ ratio is not significant at both levels of significance. It means that there exists no significant difference between creativity of secondary school students belonging to emotional instability and emotional stability group of personality traits Therefore, the null hypothesis (H₄.7) i.e. formulated earlier, “There exists no significant difference between creativity of secondary school students belonging to emotional instability and emotional stability group of personality traits”, is retained. It can be said that these dimensions of personality traits do not influence the creativity of secondary school students.
Fig. 4.18
Graphical representation of the Difference between Mean and S.D. of Creativity of secondary school students belonging to Emotional Instability Group of Personality Traits and Emotional Stability Group of Personality Traits.