Chapter 4

STATISTICAL ANALYSIS, INTERPRETATION AND DISCUSSION OF RESULTS

The preceding chapters deal with the conceptual and theoretical background, review of related literature and methodology followed in the study. Once the data have been collected, the next step is usually the analysis of these data. An analysis means gathering, organizing, ordering and summarising the data in order to achieve the conclusions and generalizations or to obtain the answers of research questions. The purpose of data analysis is to reduce data to intelligible and interpretable form so that the relations of variables may be studied and tested by extracting as much information as possible. The analysis of the data can be divided into two stages: 1) Descriptive statistics aims at measuring central tendency and dispersion of the data and 2) inferential statistics (‘t’ test, ANOVA, regression and structure equation modelling etc.). These techniques have been employed to achieve conclusions and inferences and also generalization related to population from which the sample is drawn.

This chapter contains the analysis of the data, results and subsequent interpretation of the data. In the analysis process, most of the data has been analyzed with the help of software SPSS (Statistical Package for Social Science, version. 22), AMOS Graphics, ESC (effect size calculator) and also manually. The following paragraphs present the details of the results and subsequent interpretation under the following sections:

Stage I: Normality of Data and Descriptive measures

Stage II: Inferential measures: It included ‘t’ test (for one sample and two independent samples) to assess the attitude of secondary school teachers towards nurturing creativity, to know the quality level of secondary schools and to find out the difference between the mean scores of independent variable (to fulfil the objective no. 1, 2, 3, 4, 7, 8 and 9).

Two-way ANOVA has been used to find out the difference among mean scores on dependent variable under the study in reference to demographic variables i.e. location and gender (to fulfil the objective no. 5 & 6). Linear regression has been applied to
assess the effect of school climate on attitude of secondary school teachers towards nurturing creativity (to fulfil the objective no. 10 & 11). Lastly, Structure Equation Model has been used to estimate the contribution of the variables of the study in each other and the inter contribution of their domains (Attitude towards Nurturing Creativity and School Climate {to fulfil the objective no 12}).

4.1: Stage I: Normality of Data and Descriptive Measures

Many statisticians (Sheskin, 2000; Best & Khan, 2003 & Field, 2009) have suggested that the normality of the data should be checked before using statistical techniques. Keeping this view in mind, the present researcher applied z test to check the nature of the data for the variables under study i.e. ‘attitude towards nurturing creativity’ and ‘school climate’. The following tables (4.1 & 4.2) and figures (4.1& 4.2) describe the results of descriptive measures and z test for both of the variables:

Table 4.1: Descriptive Measures and Normality of Data ‘Attitude towards Nurturing Creativity’

<table>
<thead>
<tr>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>s.d.</th>
<th>Skewness</th>
<th>S.E. of Mean</th>
<th>Z Value</th>
<th>Z Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>654</td>
<td>92.24</td>
<td>93</td>
<td>94</td>
<td>13.15</td>
<td>-0.66</td>
<td>0.51</td>
<td>-1.29</td>
<td>±1.96</td>
</tr>
</tbody>
</table>

Figure 4.1: Normality of the Data (Attitude towards Nurturing Creativity) through Stem and Leaf Plot and Normal Probability Curve
The above given table (4.1) presents various descriptive measures of the scores attained through the application of attitude towards nurturing creativity scale constructed by the researcher. It is clear from the table that an average secondary school teacher is able to secure 92.24 score on the scale ‘attitude towards nurturing creativity’. The standard error of mean (0.51) implies that the sample mean (92.24) may deviate 0.51 only from the population mean. It depicts that the sample mean is relatively close to the mean of the population. The value of standard deviation is 13.15, which means that the scores may deviate from the mean by 13.15 on both sides (positive and negative) of the mean.

The table 4.1 and figure no. 4.1 also reveal that the data of attitude scale (Attitude towards Nurturing Creativity) is approximately normally distributed as the z value is 1.29 (where \( Z = \text{Skewness} / \text{S.E. of Mean} \)), which is not significant according to z standard (±1.96) (Doane & Seward, 2011). It indicates that the parametric statistics can be applied.

The following table (4.2) and figure (4.2) present the result of descriptive measures and z test, which have been used to check the normality of data for school climate.

**Table 4.2: Descriptive Measures and Normality of the Data ‘School Climate’**

<table>
<thead>
<tr>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>s.d.</th>
<th>Skewness</th>
<th>S.E. of Mean</th>
<th>Z Value</th>
<th>Z Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>654</td>
<td>94.37</td>
<td>95</td>
<td>94</td>
<td>12.48</td>
<td>-0.82</td>
<td>0.49</td>
<td>-1.68</td>
<td>±1.96</td>
</tr>
</tbody>
</table>

**Figure 4.2: Normality of the Data (School Climate) through Stem and Leaf Plot and Normal Probability Curve**
It is clear from the table 4.2 that the quality level of secondary schools is of average level because the mean score (94.37) lies in the category “average” according to the standards of the scale constructed by the researcher. The standard deviation is 12.48, which means that the scores may deviate from the mean by 12.48 on both positive and negative side. The value of standard error of mean is 0.49, which implies that the sample mean may deviate from the population mean by 0.49.

The above given table (4.2) and figure (4.2) also indicate that the data on the variable ‘school climate’ is approximately normally distributed as the z value (-1.68) (Z = Skewness/ Std. error of Mean) is not significant according to the z standard (±1.96) (Doane & Seward, 2011). Thus, it can be concluded that the parametric statistics can be applied on the data.

4.2: Stage II: Inferential Measures

The following tables and figures present the analysis of the data according to the objectives formulated earlier along with corresponding hypotheses:

4.2.1 Objective 1: To assess the attitude of secondary school teachers towards nurturing creativity

**H₀₁: There is no significant difference between real mean and assumed mean of secondary school teachers in ‘attitude towards nurturing creativity’.

To test the hypothesis, t test for one sample (assumed mean and real mean) has been applied, where the assumed mean = number of items × degree of middle response score (SAS, 2011).

**Table 4.3: Attitude of Secondary School Teachers towards Nurturing Creativity**

<table>
<thead>
<tr>
<th>N</th>
<th>Sample Mean</th>
<th>Assumed Mean</th>
<th>s.d.</th>
<th>df</th>
<th>‘t’ Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>654</td>
<td>92.24</td>
<td>80</td>
<td>13.15</td>
<td>653</td>
<td>23.80**</td>
<td>.000</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level

The table (4.3) indicates that the mean score of secondary school teachers is 92.24 while the assumed mean is 80 for attitude towards nurturing creativity. The ‘t’ value (23.80, P<0.01), which is significant at 0.01 level indicates that there is significant difference between real mean and assumed mean. Thus, the null hypothesis (H₀₁)
“there is no significant difference between real mean and assumed mean of secondary school teachers in attitude towards nurturing creativity” is rejected. The mean score (92.24) of secondary school teachers shows that they have positive attitude towards nurturing creativity. The teachers have positive attitude towards developing creativity among their students as the creativity is very important for the student’s academic achievement, personality development, career and solving the problems of life.

Mean scores (real & assumed mean) of secondary school teachers are also presented graphically in figure 4.3. The figure shows that teachers in the sample have positive attitude towards nurturing creativity.

![Figure 4.3: Attitude of Secondary School Teachers towards Nurturing Creativity](image)

In order to assess the attitude of secondary school teachers towards nurturing creativity on various dimensions separately, the following sub objectives have been formulated. The following paragraphs present the analysis according to these sub-objectives:

**4.2.1.1 Objective 1.1:** To know the level of awareness of secondary school teachers about ‘the knowledge related to creativity’ (Dimension I)

**H₀1.1: There is no significant difference between real mean and assumed mean of secondary school teachers in the level of awareness about ‘the knowledge related to creativity’. (Dimension I)**

To test the null hypothesis, ‘t’ test for one sample (assumed mean and real mean) has been applied, where the assumed mean = number of items × degree of middle response score (SAS, 2011).
Table 4.4: Awareness Level of Secondary School Teachers about the ‘Knowledge related to Creativity’ (Dimension I)

<table>
<thead>
<tr>
<th>N</th>
<th>Sample Mean</th>
<th>Assumed Mean</th>
<th>Percentage</th>
<th>s.d.</th>
<th>df</th>
<th>‘t’ Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>654</td>
<td>14.59</td>
<td>12</td>
<td>81.06 %</td>
<td>2.81</td>
<td>653</td>
<td>23.51**</td>
<td>.000</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level

The above given table (4.4) depicts that the mean score of secondary school teachers is 14.59 for the level of awareness about the knowledge related to creativity, while the assumed mean is 12. The ‘t’ value (23.51, P<0.01) is significant at 0.01 level, which indicates that there is significant difference between real and assumed mean. Therefore, the null hypothesis (H₀₁.₁) “there is no significant difference between real mean and assumed mean of secondary school teachers in the level of awareness about the knowledge related to creativity” is rejected. The mean also indicates that an average secondary school teacher in the sample has 81.06 % awareness about the knowledge related to creativity. The high level of awareness about the knowledge related to creativity among teachers maybe due to their previous knowledge which they obtained at their graduation and master’s level. Apart from this teachers also read educational books and journals which include the educational and psychological concepts like creativity. The results of the study are incoherence with the study of Lee & Seo (2006) and O’Farrell (2009) who also found that teachers have awareness about the nature of creativity.

The following paragraph presents the level of awareness of secondary school teachers about the barriers affecting creativity:

4.2.1.2 Objective 1.2: To know the level of awareness of secondary school teachers about the barriers affecting creativity (Dimension II)

H₀₁.₂: There is no significant difference between real mean and assumed mean of secondary school teachers in the level of awareness about ‘barriers affecting creativity’ (Dimension II).

To test the hypothesis, ‘t’ test for one sample (assumed mean and real mean) has been applied, where the assumed mean = number of items × degree of middle response score (SAS, 2011).
Table 4.5: Awareness Level of Secondary School Teachers about ‘Barriers affecting Creativity’ (Dimension II)

<table>
<thead>
<tr>
<th>N</th>
<th>Sample Mean</th>
<th>Expected Mean</th>
<th>Percentage</th>
<th>s.d.</th>
<th>df</th>
<th>‘t’ Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>654</td>
<td>18.36</td>
<td>16</td>
<td>76.50%</td>
<td>4.06</td>
<td>653</td>
<td>14.88**</td>
<td>.000</td>
</tr>
</tbody>
</table>

It can be concluded from the table (4.5) that the real mean is 18.36 while the assumed mean is 16 for the level of awareness about the barriers affecting creativity. The ‘t’ value (14.88, P<0.01) is significant at 0.01 level, which indicates that there is significant difference between the means. Therefore, the null hypothesis (H₀1.2) “there is no significant difference between real mean and assumed mean of secondary school teachers in the level of awareness about barriers affecting creativity” is rejected. Thus, it can be concluded that an average secondary school teachers has 76.50% awareness about the barriers, which may affect creativity.

In order to know the most affecting barriers of creativity according to secondary school teachers, the mean of each item was calculated. The result of this step is given in the following table:

Table 4.6: Descriptive Statistics related to the Barriers affecting Creativity according to Secondary School Teachers

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Barriers affecting Creativity</th>
<th>Mean</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Parenting style (democratic/caring/supportive) shapes creativity of offspring.</td>
<td>2.50</td>
<td>II</td>
</tr>
<tr>
<td>2</td>
<td>Socio-economic status of the family affects the creative ability of the learner.</td>
<td>2.16</td>
<td>VII</td>
</tr>
<tr>
<td>3</td>
<td>Restricted environment of family has negative influence on the development of creativity.</td>
<td>2.33</td>
<td>III</td>
</tr>
<tr>
<td>4</td>
<td>Autonomy or freedom at the work place boosts up the passion for creativity.</td>
<td>2.53</td>
<td>I</td>
</tr>
<tr>
<td>5</td>
<td>Excess of students in each class may increase creativity.</td>
<td>2.09</td>
<td>VIII</td>
</tr>
<tr>
<td>6</td>
<td>Exam oriented teaching-learning process creates hindrance in the development of creativity.</td>
<td>2.31</td>
<td>IV</td>
</tr>
<tr>
<td>7</td>
<td>Anxiety or frustration of learner hampers creativity.</td>
<td>2.24</td>
<td>V</td>
</tr>
<tr>
<td>8</td>
<td>Poor interpersonal relationship among colleagues nurtures creativity.</td>
<td>2.20</td>
<td>VI</td>
</tr>
</tbody>
</table>
Figure 4.4: Barriers affecting Creativity according to Secondary School Teachers

The table (4.6) and figure (4.4) given above reveal that all the barriers included in the tool are affecting the creativity according to secondary school teachers because the mean of each item is greater than assumed mean (2). The most affecting barriers of creativity are lack of autonomy or freedom at the work place (mean = 2.53), followed by parenting style (democratic/caring/supportive) (mean = 2.50), restricted environment of family (mean = 2.33), exam oriented teaching-learning process (mean=2.31), anxiety or frustration of learner (mean=2.24), poor interpersonal relationship among colleagues (mean = 2.20), socio-economic status of family (mean=2.16) and excess of students in class (mean = 2.09).

The reason behind this result may be the practical experience in the field of education and teaching as they have been working with the students for many years so they can understand the barriers, which influence the development of creativity. This result is also in agreement with the results of objective 1.1 as secondary school teachers have the knowledge about creativity. They can easily understand the constraints, which create hindrance in creative development.

Lack of autonomy or freedom at the work place is found most affecting barrier because freedom is always considered as a pre condition to do any novel work. It is very obvious that when limitations or restrictions are ignored, new things are originated.
The findings given in the table are also confirmed by many previous researches (Bhandarkar, 1989; Rehm, 1989; Hill, 1992; Alotaibi, 2006; Abdulrab & Sridhar, 2012). Bhandarkar (1989) found that school and family are the causes of suppressing the creative abilities of meritorious individuals; Rehm (1989) concluded that lack of courage and autocratic thinking hinder the development of creative abilities. Hill (1992) revealed that lack of necessary equipments and in the study of Alotaibi (2006) extra work load on teachers, less attention towards school activities have also been found as main barriers in enhancing creativity. Abdulrab & Sridhar (2012) found that many factors related to teaching process, curriculum, school environment (lack of tools and equipments, traditional environment of classroom and school) and student’s interest affect creative teaching in schools.

The following table (4.7) presents the awareness level of secondary school teachers about enhancing creativity among the students:

**4.2.1.3 Objective 1.3:** To know the level of awareness of secondary school teachers about ‘enhancing creativity among the students’ (Dimension III)

**H₀1.3: There is no significant difference between real mean and assumed mean of secondary school teachers in the level of awareness about ‘enhancing creativity among the students’ (Dimension III).**

To test the hypothesis, ‘t’ test for one sample (assumed mean and real mean) has been applied, where the assumed mean = number of items × degree of middle response score (SAS, 2011).

**Table 4.7: Awareness Level of Secondary School Teachers about ‘Enhancing Creativity among the Students’ (Dimension III)**

<table>
<thead>
<tr>
<th>N</th>
<th>Sample Mean</th>
<th>Expected Mean</th>
<th>Percentage</th>
<th>s.d.</th>
<th>df</th>
<th>‘t’ Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>654</td>
<td>31.30</td>
<td>26</td>
<td>80.25%</td>
<td>5.30</td>
<td>653</td>
<td>25.56**</td>
<td>.000</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level

A perusal of the table 4.7 shows that the real mean of secondary school teachers is 31.30 for the extent of awareness about enhancing creativity among students while the assumed mean is 26 (where, assumed mean = degree of middle response score ×
total number of items). The ‘t’ value (25.56, P<0.01) is significant at 0.01 level, which indicates that there is significant difference between the means. Therefore, the null hypothesis (H₀1.3), “there is no significant difference between real mean and assumed mean of secondary school teachers in the level of awareness about enhancing creativity among the students” is rejected. The mean score of secondary school teachers reveals that they have 80.25 % awareness about the ways of enhancing creativity among students.

The role of teachers in the present day society is not confined to teaching-learning process. They are interested with some more responsibilities like all round development of personality and value development etc. They are supposed to nurture the talents lying hidden in the individuals. Their role is to prepare individuals for creative contribution in the progress of society therefore they understand the importance of enhancing creativity and have awareness about techniques and methods by which students can learn actively. The results are in coherence with the findings of O’Farrell (2009) and Okoli and others (2014) who found that teachers are aware of the techniques and methods of enhancing creativity among students. But the results of Chakraborthory (1992) contradict the findings of the present study. He arrived at the conclusion that teachers do not make any attempt to promote creativity in classroom because of the ignorance about strategies and methods of enhancing creativity.

The following table (4.8) describes the level of awareness of secondary school teachers about misconceptions related to creativity:

4.2.1.4 Objective 1.4: To know the level of awareness of secondary school teachers about ‘misconceptions related to creativity’ (Dimension IV)

H₀1.4: There is no significant difference between real mean and assumed mean of secondary school teachers in the level of awareness about ‘misconceptions related to creativity’ (Dimension IV).

To test the hypothesis, ‘t’ test for one sample (assumed mean and real mean) has been applied, where the assumed mean = number of items × degree of middle response score (SAS, 2011).
Table 4.8: Awareness Level of Secondary School Teachers about ‘Misconceptions related to Creativity’ (Dimension IV)

<table>
<thead>
<tr>
<th>N</th>
<th>Sample Mean</th>
<th>Expected Mean</th>
<th>Percentage</th>
<th>s.d.</th>
<th>df</th>
<th>t Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>654</td>
<td>14.58</td>
<td>14</td>
<td>69.42%</td>
<td>3.94</td>
<td>653</td>
<td>3.82**</td>
<td>.000</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level

The table 4.8 depicts that the real mean is 14.58 for the extent of awareness about the misconceptions related to creativity while the assumed mean is 14 (where, assumed mean = degree of middle response score × total number of items). The ‘t’ value (3.82, P<0.01) is significant at the specified level indicating that there exists difference between means. Therefore, the null hypothesis (H₀1.4), “there is no significant difference between real mean and assumed mean of secondary school teachers in the level of awareness about misconceptions related to creativity” is rejected. Thus, it can be concluded that an average teacher in the sample has 69.24% awareness about the misconceptions related to creativity.

To know the most common misconception related to creativity among secondary school teachers, the mean of the each item was calculated. The result of this step is given in the below given table:

Table 4.9: Descriptive Statistics to Know the Common Misconceptions related to Creativity among Secondary School Teachers

<table>
<thead>
<tr>
<th>Misconceptions related to Creativity</th>
<th>Mean</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Creativity is reserved for the people of certain caste and race.</td>
<td>2.32</td>
<td>I</td>
</tr>
<tr>
<td>2 If creativity is not expressed by a certain age, it can’t be expressed throughout the life.</td>
<td>1.99</td>
<td>V</td>
</tr>
<tr>
<td>3 Creativity is only an inborn gift.</td>
<td>1.94</td>
<td>VII</td>
</tr>
<tr>
<td>4 Creativity applies only to science and fine arts.</td>
<td>2.05</td>
<td>IV</td>
</tr>
<tr>
<td>5 Intoxicated things may make someone more creative.</td>
<td>2.13</td>
<td>III</td>
</tr>
<tr>
<td>6 Only writers or composers are creative.</td>
<td>2.19</td>
<td>II</td>
</tr>
<tr>
<td>7 Money works as a motivator for creativity.</td>
<td>1.96</td>
<td>VI</td>
</tr>
</tbody>
</table>
The above given table (4.9) and figure (4.5) show that only four misconceptions are prevailing among the secondary teachers because the mean of these items is greater than assumed mean i.e. 2. The most prevailing misconception among teachers is ‘creativity is reserved for the people of certain caste and race’ (mean= 2.32) followed by ‘only writers or composers are creative’ (mean score= 2.19), ‘intoxicated things may make someone more creative’ (mean score= 2.13), ‘creativity applies only to science and fine arts’ (mean score= 2.05), and the least prevailing misconceptions are ‘if creativity is not expressed by a certain age, it can’t be expressed throughout the life’ (mean score= 1.99), ‘money works as a motivator for creativity’ (mean score= 1.96), ‘creativity is only an inborn gift’ (mean score= 1.94).

The results reveal that teachers have higher level of awareness about misconceptions related to the nurturance of creativity. Such findings may be attributed to the fact that teachers are highly educated people and possess knowledge about various aspects of creativity as it is an important component of teachers’ training program. According to National Curriculum Framework for Teacher Education (2009) development of creativity in all the teaching subjects is one of the duties entrusted to the teachers.

The following table (4.10) describes the level of awareness of secondary school teachers about the indicators of creativity.
### 4.2.1.5 Objective 1.5: To know the level of awareness of secondary school teachers about ‘the indicators of creativity’ (Dimension V)

**H₀1.5: There is no significant difference between real mean and assumed mean of secondary school teachers in the level of awareness about ‘the indicators of creativity’ (Dimension V).**

To test the hypothesis, t test for one sample (assumed mean and real mean) has been applied, where the assumed mean = number of items × degree of middle response score (SAS, 2011).

**Table 4.10: Awareness Level of Secondary School Teachers about the ‘Indicators of Creativity’ (Dimension V)**

<table>
<thead>
<tr>
<th>N</th>
<th>Sample Mean</th>
<th>Expected Mean</th>
<th>Percentage</th>
<th>s.d.</th>
<th>df</th>
<th>‘t’ Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>654</td>
<td>13.39</td>
<td>12</td>
<td>74.38%</td>
<td>3.16</td>
<td>653</td>
<td>11.26**</td>
<td>.000</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level

It is clear from the table 4.10 that the real mean of secondary school teachers is 13.39 for the level of awareness about the indicators of creativity while the assumed mean is 12 (where, assumed mean = degree of middle response score × total number of items). The ‘t’ value (11.26, P<0.01) is significant at the specified level. Therefore, the null hypothesis (H₀1.5), “there is no significant difference between real mean and assumed mean of secondary school teachers in the level of awareness about the indicators of creativity” is rejected. Thus, it can be concluded that an average secondary school teacher has 74.38 % awareness about the indicators of creativity.

To know the most common indicator of creativity from the point of view of secondary school teachers, the mean of the each item was calculated. The result of this step is given in the below given table (4.11):
Table 4.11: Descriptive Statistics related to Indicators of Creativity

<table>
<thead>
<tr>
<th>Indicators related Creativity</th>
<th>Mean</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Creative people have exploratory and curious nature.</td>
<td>2.28</td>
<td>III</td>
</tr>
<tr>
<td>2 Creative people may be ambiguous.</td>
<td>1.94</td>
<td>VI</td>
</tr>
<tr>
<td>3 Creative people have apathy towards problems.</td>
<td>2.05</td>
<td>V</td>
</tr>
<tr>
<td>4 Creative people have more diversity of ideas in comparison to non-creative people.</td>
<td>2.45</td>
<td>I</td>
</tr>
<tr>
<td>5 Creative people have an ability to elaborate the things in different ways.</td>
<td>2.42</td>
<td>II</td>
</tr>
<tr>
<td>6 Creative people have attraction towards unusual or mysterious things.</td>
<td>2.26</td>
<td>IV</td>
</tr>
</tbody>
</table>

**Figure 4.6: Indicator of Creativity according to Secondary School Teachers**

The above given table (4.11) and figure (4.6) indicate that there are five most common indicators of creative person according to secondary school teachers because the mean of those items is greater than assumed mean (2). The most common indicator of creativity is ‘creative people have more diversity of ideas in comparison to non-creative people’ (mean= 2.45) followed by ‘creative people have an ability to elaborate the things in different ways’ (mean score= 2.42), ‘creative people have exploratory and curious nature’ (mean score= 2.28), ‘creative people have attraction towards unusual or mysterious things’ (mean score= 2.26), ‘creative people have apathy towards problems’ (mean score= 2.05) and least common indicator is ‘creative people may be ambiguous’ (mean score= 1.94).
It seems quite logical because teachers play a role of perceiver who recognizes the potential of students and guide them accordingly. He shapes the personality of students and sparks them; stimulate them to achieve knowledge in an effective manner. The findings of Chan and Chan (1999) Aljughaiman and Reynolds (2005) also support the results who assessed the perception of teachers regarding creative individuals and found that creative individuals possess various kind of qualities like high intellect, attentive, disciplined positive self concept, imagination, diverse thinking and courage more than average level.

To sum-up, it can be concluded that secondary school teachers have awareness about various aspects of creativity i.e. knowledge about creativity, barriers affecting creativity, enhancing creativity among students, misconceptions related to creativity and indicators of creativity. Mean scores (real mean & assumed mean) of secondary school teachers have been presented graphically (figure 4.7) indicating that they have awareness about various aspects of nurturing creativity.

![Figure 4.7: Awareness Level of Secondary School Teachers on Various Aspects of Nurturing Creativity](image)

4.2.2 Objective 2: To assess the attitude of secondary school teachers belonging to Science Stream towards nurturing creativity

$H_{02}$: There is no significant difference between real mean and assumed mean of secondary school teachers belonging to Science Stream in attitude towards nurturing creativity.
To test these null hypotheses (2), the ‘t’ test for one sample (assumed mean and real mean) has been applied on the total score and the score on each dimension of the tool, where the assumed mean = number of items × degree of middle response score (SAS, 2011). The following table (4.12) and figure (4.8) reveal the attitude of secondary school teachers (belonging to Science Stream) towards nurturing creativity and their level of awareness on various dimensions related to nurturing creativity:

**Table 4.12: Attitude of Secondary School Teachers (belonging to Science Stream) towards Nurturing Creativity (Total Score & Dimension-Wise)**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Sample Mean</th>
<th>Expected Mean</th>
<th>s.d.</th>
<th>df</th>
<th>‘t’ Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude towards nurturing creativity (Total score)</td>
<td>274</td>
<td>89.11</td>
<td>80</td>
<td>12.56</td>
<td>273</td>
<td>12.01**</td>
<td>.000</td>
</tr>
<tr>
<td>(Dim. I) Knowledge related to creativity</td>
<td>274</td>
<td>14.08</td>
<td>12</td>
<td>2.69</td>
<td>273</td>
<td>12.79**</td>
<td>.000</td>
</tr>
<tr>
<td>(Dim. II) Barriers affecting creativity</td>
<td>274</td>
<td>17.52</td>
<td>16</td>
<td>4.12</td>
<td>273</td>
<td>6.13**</td>
<td>.000</td>
</tr>
<tr>
<td>(Dim. III) Enhancing creativity among the students</td>
<td>274</td>
<td>30.61</td>
<td>26</td>
<td>4.96</td>
<td>273</td>
<td>15.37**</td>
<td>.000</td>
</tr>
<tr>
<td>(Dim. IV) Misconceptions related to creativity</td>
<td>274</td>
<td>13.79</td>
<td>14</td>
<td>3.88</td>
<td>273</td>
<td>-0.85</td>
<td>0.39</td>
</tr>
<tr>
<td>(Dim. V) Indicators of creativity</td>
<td>274</td>
<td>13.08</td>
<td>12</td>
<td>3.16</td>
<td>273</td>
<td>5.68**</td>
<td>.000</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level

**Figure 4.8: Attitude of Secondary School Teachers belonging to Science Stream towards Nurturing Creativity**

108
It is evident from the table 4.12 that the mean score of secondary school teachers (belonging to Science stream) is 89.11 while the assumed mean is 80 on attitude towards nurturing creativity. The ‘t’ value (12.01, P<0.01) is significant at the specified level, which indicates that there is significant difference between real mean and assumed mean. The mean score of secondary school teachers belonging to Science Stream also shows that they have positive/ favorable attitude towards nurturing creativity because the real mean is greater than assumed mean.

The above given table (4.12) also depicts the level of awareness of secondary school teachers belonging to Science Stream in various aspects related to nurturing creativity, which are as follows:

(i) The mean score of secondary school teachers of science stream is 14.08 while assumed mean is 12 for the level of awareness of knowledge related to creativity. On applying t-test, obtained ‘t’ value (12.79, P<0.01) is statistically significant at the specified level, which implies that there is significant difference between the means. By observing the mean scores it can be said that secondary school teachers belonging to Science Stream are aware of the knowledge related to creativity as their mean is higher than the assumed mean.

(ii) The mean score for the extent of awareness about the barriers affecting creativity is 17.52 while the assumed mean is 16 (where, assumed mean = degree of middle response score × total number of items). The ‘t’ value (6.13, P < 0.01) is significant at the specified level, which indicates that there is significant difference between the real mean and assumed mean. The mean score of secondary school teachers belonging to Science Stream is more than the assumed mean, which implies that they are aware of the barriers, which may affect creativity.

(iii) The mean score for the level of awareness about enhancing creativity among students is 30.61 while the assumed mean is 26 (where, assumed mean = degree of middle response score × total number of items). The obtained ‘t’ value (15.37, P<0.01) is significant at the specified level. This indicates that there is significant difference between the means. It can also be inferred from the table that secondary school teachers belonging to Science Stream are aware of the ways of enhancing creativity among students as the mean is greater than assumed mean.
(iv) The mean score of teachers is 13.79 for the level of awareness about the misconceptions related to creativity and the assumed mean is 14 (where, assumed mean = degree of middle response score × total number of items). The calculated ‘t’ value (-0.85, P>0.01) is not significant. Therefore, it can be said that there is no significant difference between the real mean and assumed mean of secondary school teachers belonging to Science Stream in the level of awareness about the misconceptions related to creativity.

(v) The calculated ‘t’ value for the level of awareness about the indicators of creativity (5.68, P<0.01) is significant at the specified level, which indicates that the difference exists between the means. Real mean (13.08) is greater than the assumed mean (12) (where, assumed mean = degree of middle response score × total number of items). Therefore, it can be concluded that secondary school teachers belonging to Science Stream are aware of the indicators of creativity.

To sum up, it can be concluded that the teachers belonging to Science Stream have positive attitude towards nurturing creativity and they are aware of various aspects of nurturing creativity i.e. knowledge related creativity, barriers affecting creativity, enhancing creativity among the students, misconceptions related to creativity and indicators of creativity. Thus, null hypothesis (H02), “there is no difference between real mean and assumed mean of secondary school teachers belonging to Science Stream in attitude towards nurturing creativity” is rejected. Their attitude is positive and the level of awareness is also more than average in all aspects except one aspect ‘the knowledge about the misconceptions related to creativity’. They have average knowledge about the misconceptions of creativity.

Teachers as a whole are responsible for all the activities taking place in the schools besides teaching-learning process. Science teachers are also engaged (in addition to other activities) in theory as well as practical experiments. The curriculum of science stream consists of such activities that requires novelty of ideas, courage to take risk, innovative and divergent thinking etc., which are also required to create a thing. This result is in agreement with many studies such as the study of Park & Others (2006) who found that science teachers had growing awareness about creativity that it could be expressed by anyone, and every student had the potential to create something worthy. Creativity could be enhanced by science teaching as Science teaching has much wider
range of activities and experiments, which requires innovations and creativity. Moreover the study of Okoli & others (2014) concluded that Science, Technology and Mathematics teachers are aware of the strategies of promoting creativity but they do not use these strategies regularly in teaching process due to the lack of funds, instructional material, lack of creativity skills among teachers and insufficient time.

4.2.3 **Objective 3:** To assess the attitude of secondary school teachers belonging to Arts Stream towards nurturing creativity

**H₀3: There is no significant difference between real mean and assumed mean of secondary school teachers belonging to Arts Stream in attitude towards nurturing creativity.**

To test the null hypotheses (3), t-test for one sample (assumed mean and real mean) has been applied on the total score and the scores of each dimension of the tool, where the assumed mean = number of items × degree of middle response score (SAS, 2011).

The following table (4.13) and figure (4.9) reveal the attitude of secondary school teachers (belonging to Arts Stream) towards nurturing creativity and their level of awareness on various dimensions related to nurturing creativity:

**Table 4.13: Attitude of Secondary School Teachers (belonging to Arts Stream) towards Nurturing Creativity (Total Score & Dimension-Wise)**

<table>
<thead>
<tr>
<th>N</th>
<th>Sample Mean</th>
<th>Expected Mean</th>
<th>s.d.</th>
<th>df</th>
<th>t Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>380</td>
<td>94.50</td>
<td>80</td>
<td>13.12</td>
<td>379</td>
<td>21.54**</td>
<td>.000</td>
</tr>
<tr>
<td>380</td>
<td>14.95</td>
<td>12</td>
<td>2.85</td>
<td>379</td>
<td>20.21**</td>
<td>.000</td>
</tr>
<tr>
<td>380</td>
<td>18.96</td>
<td>16</td>
<td>3.91</td>
<td>379</td>
<td>14.78**</td>
<td>.000</td>
</tr>
<tr>
<td>380</td>
<td>31.80</td>
<td>26</td>
<td>5.49</td>
<td>379</td>
<td>20.59**</td>
<td>.000</td>
</tr>
<tr>
<td>380</td>
<td>15.15</td>
<td>14</td>
<td>3.88</td>
<td>379</td>
<td>5.810**</td>
<td>.000</td>
</tr>
<tr>
<td>380</td>
<td>13.61</td>
<td>12</td>
<td>3.14</td>
<td>379</td>
<td>10.00**</td>
<td>.000</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level
Figure 4.9: Attitude of Secondary School Teachers belonging to Arts Stream towards Nurturing Creativity (Total & Dimensions)

It is revealed from the table given above (4.13) that the mean score of secondary school teachers belonging to arts stream is 94.50 while the assumed mean is 80 (where, assumed mean = degree of middle response score × total number of items). On applying ‘t’ test, the obtained ‘t’ ratio (21.54, P<0.01) is significant at the specified level. It indicates that there is significant difference between real mean and assumed mean. The mean score of secondary school teachers belonging to Arts Stream is higher than the assumed mean, which confirms that they have positive/favorable attitude towards nurturing creativity.

The above given table (4.13) also depicts the awareness level of secondary school teachers belonging to Arts Stream in various aspects of nurturing creativity which has-been explained in following paragraphs:

(i) The ‘t’ value (20.21, P<0.01) for the awareness level about the knowledge related to creativity of secondary school teachers (belonging to Arts Stream) is significant at the specified level, which confirms that there is significant difference between the means. The sample mean (14.95) is greater than the assumed mean (12) (where, assumed mean = degree of middle response score × total number of items). Thus, it can be concluded that secondary school teachers belonging Arts Stream are aware of the knowledge related to creativity.
(ii) The ‘t’ value (14.78, P<0.01) for the level of awareness about the barriers affecting creativity is significant at the specified level. This indicates that there is significant difference between the means. The sample mean is 18.96 while the expected mean is 16, which explains that the secondary school teachers belonging to Arts Stream are aware of the barriers, which affect creativity.

(iii) The ‘t’ value (20.59, P<0.01) for the level of awareness about enhancing creativity among students is significant at the specified level. It indicates that there is significant difference between the means. The sample mean (31.80) is greater than the expected mean (26). Therefore, it can be concluded that secondary school teachers belonging to Arts Stream are aware of the ways of enhancing creativity among students.

(iv) The ‘t’ value (5.81, P<0.01) for the extent of awareness about the misconceptions related to creativity is significant at the specified level. The sample mean (15.15) is higher than the assumed mean (14). Therefore, it can be concluded that secondary school teachers belonging to Arts Stream have awareness about the misconceptions related to creativity.

(v) The ‘t’ value (10, P<0.01) for the level of awareness about the indicators of creativity is significant at the specified level. The sample mean (13.61) is greater than the assumed mean (12). Therefore, it can be concluded that secondary school teachers belonging to Arts Stream have awareness about the indicators of creativity.

On the basis of obtained results, the null hypothesis \( (H_0) \) “there is no difference between real mean and assumed mean of secondary school teachers belonging to Arts Stream in attitude towards nurturing creativity” is rejected. To sum up, it can be said that the teachers belonging to arts stream have positive attitude towards nurturing creativity and they are aware of various aspects of creativity i.e. knowledge related creativity, barriers affecting creativity, enhancing creativity among the students, misconceptions related to creativity and indicators of creativity.

The teachers of Arts Stream deal with a number of subjects related to society, humanity and fine arts etc. All these areas require use of various psychological concepts as creativity, emotions, attitude, behavior, learning style, reasoning ability, intelligence, achievement etc.. Teachers study all these concepts in their learning span.
and also teach them in teaching span. They possess the knowledge about these concepts in theoretical as well as practical manner. Therefore, it is quite logical that the teachers belonging to Arts Stream have positive attitude towards nurturing creativity and they are also aware of various aspects of creativity. The findings of this objective are supported by the research of Khan (2012) who investigated the perception of English teachers about creativity and teaching creative writing. He found that 64% female and 68% male teachers consider themselves as creative.

**4.2.4 Objective 4:** To know the difference between secondary school teachers belonging to Science and Arts Streams in the attitude towards nurturing creativity

**H₀₄: There is no significant difference between secondary school teachers belonging to Science and Arts Streams in the attitude of towards nurturing creativity.**

To test the hypothesis (4) ‘t’ test for two independent samples has been applied. The following table (4.14) and figure (4.10) describe the result of ‘t’ test for two independent samples.

**Table 4.14: Difference in the Attitude of Secondary School Teachers (belonging to Science and Arts Streams) towards Nurturing Creativity**

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>s.d.</th>
<th>df</th>
<th>‘t’ Value</th>
<th>Sig.</th>
<th>Effect size Cohen’s d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude towards nurturing creativity (Total score)</td>
<td>Arts</td>
<td>380</td>
<td>94.50</td>
<td>13.12</td>
<td>652</td>
<td>5.27**</td>
<td>.000</td>
<td>0.296</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>274</td>
<td>89.11</td>
<td>12.56</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Dim. I) Knowledge related to creativity</td>
<td>Arts</td>
<td>380</td>
<td>14.95</td>
<td>2.85</td>
<td>652</td>
<td>3.97**</td>
<td>.000</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>274</td>
<td>14.08</td>
<td>2.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Dim. II) Barriers affecting the attitude towards nurturing creativity</td>
<td>Arts</td>
<td>380</td>
<td>18.96</td>
<td>3.91</td>
<td>652</td>
<td>4.53**</td>
<td>.000</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>274</td>
<td>17.52</td>
<td>4.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Dim. III) Enhancing creativity among students</td>
<td>Arts</td>
<td>380</td>
<td>31.80</td>
<td>5.49</td>
<td>652</td>
<td>2.84**</td>
<td>.005</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>274</td>
<td>30.61</td>
<td>4.96</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Dim. IV) Misconceptions related to creativity</td>
<td>Arts</td>
<td>380</td>
<td>15.15</td>
<td>3.88</td>
<td>652</td>
<td>4.41**</td>
<td>.000</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>274</td>
<td>13.79</td>
<td>3.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Dim. V) Indicators of creativity</td>
<td>Arts</td>
<td>380</td>
<td>13.61</td>
<td>3.14</td>
<td>652</td>
<td>2.10*</td>
<td>.036</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>274</td>
<td>13.08</td>
<td>3.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant at 0.01 level & *Significant at 0.05 level**
From the above given table (4.14) and figure (4.10), it can be inferred that ‘t’ value (5.27, P<0.01) for attitude towards nurturing creativity is significant at the specified level. This indicates that there is significant difference between the mean scores of secondary school teachers belonging to science and arts streams (mean score of arts teachers= 89.11 and mean score of science teachers= 89.11). Therefore, it can be concluded that the secondary school teachers belonging to Arts Stream have more favorable attitude towards nurturing creativity than their counterparts belonging to Science Stream.

The above given table (4.14) also reveals the difference between secondary school teachers belonging to science and arts stream in the level of awareness about the ‘knowledge related to creativity’, ‘barriers affecting creativity’, ‘enhancing creativity among students’, ‘misconceptions related to creativity’ and ‘indicators of creativity’. The results have been described in following paragraphs:

(i) The ‘t’ value (3.97, P<0.01) for the extent of awareness about the knowledge related to creativity of secondary school teachers belonging to Science and Arts Streams is significant at the specified level, which indicates that there is statistically significant difference between the means of both streams. The mean score of secondary school teachers belonging to Arts Stream (14.95) is greater than the mean score (14.08) of secondary school teachers belonging to Science Stream. Therefore, it can be concluded that secondary school teachers belonging to Arts Stream are
more aware of the knowledge related to creativity than their counterparts of Science Stream.

(ii) The ‘t’ value (4.53, P<0.01) for the level of awareness about the barriers affecting creativity is significant at the specified level, which indicates that there is significant difference between the mean scores of both streams (mean score of Science teachers= 17.52 mean score of Arts teachers= 18.96). The higher mean score of secondary school teachers belonging to Arts Stream confirms that they are more aware of the barriers affecting creativity.

(iii) The ‘t’ value for the extent of awareness about enhancing creativity among students (2.84, P <0.01) is significant at the specified level. This indicates that there is statistically significant difference between the means of secondary school teachers of both streams. The mean score of secondary school teachers belonging to Arts Stream (31.80) is greater than the mean score of secondary school teachers belonging to Science Stream (30.61). It confirms that secondary school teachers belonging to Arts Stream are more aware of the ways of enhancing creativity among students than their counterparts of Science Stream.

(iv) The ‘t’ value (4.41, P<0.01) for the level of awareness about the misconceptions related to creativity is significant at the specified level. The mean score of secondary school teachers belonging to Arts Stream (15.15) is higher than the mean score of secondary school teachers belonging to Science Stream (13.79). Therefore, it can be concluded that secondary school teachers belonging to Arts Stream have more awareness about the misconceptions related to creativity than the teachers of Science Stream.

(v) The ‘t’ value (2.10, P<0.05) for the level of awareness about the indicators of creativity is significant at the specified level. The mean score of secondary school teachers belonging to Arts Stream (13.61) is greater than the mean score of secondary school teachers belonging to Science Stream (13.08). Therefore, it can be concluded that secondary school teachers belonging to Arts Stream are more aware of the indicators of creativity than their counterparts of science stream.
The value of effect size 0.29 shows that teachers belonging to Arts stream are 21.3% ahead than their counterparts of Science stream as far as attitude towards nurturing creativity is concerned.

Thus, the null hypothesis (Hₐ)(4), “there is no significant difference between secondary school teachers belonging to Science and Arts streams in attitude towards nurturing creativity” is rejected. It can be concluded that the secondary school teachers of Arts Stream have more favorable attitude towards nurturing creativity and they have more awareness in various aspects of creativity i.e. knowledge about creativity, barriers affecting creativity, enhancing creativity among students, misconceptions related to creativity and indicators of creativity than their fellow teachers of Science Stream.

Such results may be attributed to the versatile role played by Arts teachers as mentioned earlier. Teachers of Arts subjects require a number of qualities like readiness, insight, observation power, imagination, knowledge about psychological concepts and human behaviour. Such teachers have deep understanding of the personality of learner that is why Arts teachers have significantly better attitude towards nurturing creativity than their counterparts teaching in Science Stream. The findings of this objective are supported with the study of Stricker (2008) who found that teachers of art, technology and music perceive the creative process as important to creative work but in comparison, the teachers belonging to technology assume creative process less important than the teachers of Art and Music.

**4.2.5 Objective 5:** To know the difference in the attitude of secondary school teachers belonging to Science Stream towards nurturing creativity according to location (rural/urban) and gender (male/female)

**H₀5:** There is no significant difference in the attitude of secondary school teachers belonging to Science Stream towards nurturing creativity according to location (rural/urban) and gender (male/female).

To test this hypothesis (5), two-way ANOVA has been applied. The following table (4.15) and figures (4.11& 4.12) explain the analysis according to the framed hypothesis:
Table 4.15: Difference in the Attitude of Secondary School Teachers (belonging to Science Stream) towards Nurturing Creativity (in relation to Location and Gender)

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Mean</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
<th>Effect Size (eta square) n²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>89.41</td>
<td>3.25</td>
<td>1</td>
<td>3.25</td>
<td>.02</td>
<td>.88</td>
<td>.0012</td>
</tr>
<tr>
<td>Urban</td>
<td>88.90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>90.18</td>
<td>393.98</td>
<td>1</td>
<td>393.98</td>
<td>2.49</td>
<td>.11</td>
<td>.013</td>
</tr>
<tr>
<td>Female</td>
<td>87.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction (Living Place x Gender)</td>
<td>4.01</td>
<td>1</td>
<td>4.01</td>
<td>.02</td>
<td>.87</td>
<td>.0013</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>42641.59</td>
<td>270</td>
<td>157.93</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2218945</td>
<td>274</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.11: Difference in the Attitude of Secondary School Teachers (belonging to Science Stream) towards Nurturing Creativity in Relation to Location & Gender
Figure 4.12: Interaction between the Variables ‘Location & Gender’ in Attitude towards Nurturing Creativity

The above table (4.15) and figures (4.11 & 4.12) show that all F values (0.02, 2.49 & 0.02, P>0.01) are not significant. Thus, the following conclusions can be drawn from the above given table:

(i) There is no significant difference among secondary school teachers belonging to Science Stream in attitude towards nurturing creativity according to living place (where, the mean score of rural secondary school teachers of Science Stream is 89.41 while of urban teachers is 88.90). It confirms that teachers of both the locations have same attitude towards nurturing creativity.

(ii) There is no significant difference among secondary school teachers belonging to Science Stream in attitude towards nurturing creativity according to gender (where, the mean score of male secondary school teachers of Science Stream is 90.18 while of female teachers is 87.67). Therefore, it can be concluded that gender does not play significant role in determining the attitude towards nurturing creativity.

(iii) The table also reveals that there is no interaction between the variables i.e. living place and gender on attitude towards nurturing creativity.
The value of effect size (0.0012) indicates that only 0.12% variation may be caused by living place while gender causes 1.3% variation as far as attitude of secondary school teachers towards nurturing creativity is concerned. However, the interaction effect size (0.0013) of both of these variables together may cause 0.13% variation among secondary school teachers of Science stream for their attitude towards nurturing creativity. Here, effect size value is of little importance because null hypothesis is not rejected.

On the basis of above discussion, it can be concluded that null hypothesis ($H_0$), “there is no significant difference in the attitude of secondary school teachers of Science Stream towards nurturing creativity (total) according to location (rural/urban) and gender (male/female)” is accepted.

Science teachers living at rural or urban location as well as male or female have similar attitude towards nurturing creativity because the teachers pass more time in experiments and laboratories, where the conditions and environment are same and all of them deal with similar school conditions therefore gender and location do not affect their attitude towards nurturing creativity.

In order to find out the difference among secondary school teachers (belonging to Science Stream) on various dimensions related to attitude towards nurturing creativity, sub-objectives have been formulated. The following paragraphs present the analysis according to the sub-objectives:

**4.2.5.1 Objective 5.1:** To find out the difference in the level of awareness of secondary school teachers (belonging to Science Stream) about ‘knowledge related to creativity’ according to location (rural/urban) and gender (male/female) (Dimension I)

$H_05.1$: There is no significant difference in the level of awareness of secondary school teachers (belonging to Science Stream) about ‘knowledge related to creativity’ according to location (rural/urban) and gender (male/female) (Dimension I).

To test this hypothesis (5.1), two-way ANOVA has been applied. The following table (4.16) and figures (4.13& 4.14) describe the analysis according to framed sub-hypothesis:
Table 4.16: Difference in the Level of Awareness of Secondary School Teachers (belonging to Science Stream) about ‘Knowledge related to Creativity’ (Dimension I)

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Mean</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>14.07</td>
<td>.12</td>
<td>1</td>
<td>.12</td>
<td>.017</td>
<td>.89</td>
</tr>
<tr>
<td>Urban</td>
<td>14.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>14.04</td>
<td>.92</td>
<td>1</td>
<td>.92</td>
<td>.12</td>
<td>.72</td>
</tr>
<tr>
<td>Female</td>
<td>14.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Living Place×Gender)</td>
<td>1.10</td>
<td>1</td>
<td></td>
<td>1.10</td>
<td>.15</td>
<td>.69</td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td>1974.65</td>
<td>270</td>
<td>7.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>56298.00</td>
<td>274</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.13: Difference in the Level of Awareness of Secondary School Teachers (belonging to Science Stream) about ‘Knowledge related to Creativity’ according to Location & Gender (Dimension I)
Figure 4.14: Interaction between the Variables ‘Location & Gender’ in the Level of Awareness of ‘Knowledge related to Creativity’ (Dimension I)

The above table (4.16) and figures (4.13 & 4.14) indicate that all F values (.017, 0.12 & 0.15 P>0.01) are not significant. Therefore, the following conclusions can be inferred from the above given table:

(i) There is no significant difference in level of awareness of secondary school teachers of Science Stream about knowledge related to creativity according to living place (where, the mean score of rural secondary school teachers of Science Stream is 14.07 while of urban teachers is 14.08). It confirms that teachers of both of the locations have same level of awareness related to the knowledge of creativity.

(ii) There is no significant difference in level of awareness of secondary school teachers of Science Stream about knowledge related to creativity according to gender (where, the mean score of male secondary school teachers of Science Stream is 14.04 while of female teachers is 14.12). Thus, it can be inferred that gender does not play significant role in the awareness about the creativity.

(iii) The table also reveals that there is no interaction between the variables i.e. living place and gender in the awareness level about the knowledge of creativity. Thus, null hypothesis (H$_0$.5.1), “there is no significant difference in the level of awareness of
secondary school teachers belonging to Science Stream about knowledge related to creativity according to location (rural/urban) and gender (male/female)” is accepted.

The results of this objective are in coherence with objective no. 5 Science teachers pass through the same stages of learning and teaching and have same curriculum and teaching strategies so gender and location do not affect their level of awareness about knowledge related to creativity.

4.2.5.2 Objective 5.2: To find out the difference in the level of awareness of secondary school teachers (belonging to Science Stream) about ‘the barriers affecting creativity’ according to location (rural/urban) and gender (male/female) (Dimension II)

H₀ 5.2: There is no significant difference in the level of awareness of secondary school teachers belonging to Science Stream about ‘the barriers affecting creativity’ according to location (rural/urban) and gender (male/female) (Dimension II).

To test this sub-hypothesis (5.2), two-way ANOVA has been applied. The following table (4.17) and figures (4.15 & 4.16) describe the analysis according to the sub-hypothesis:

**Table 4.17: Difference in the Level of Awareness of Secondary School Teachers (belonging to Science Stream) about ‘the Barriers affecting Creativity’**

(Dimension II)

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Mean</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>17.36</td>
<td>41.58</td>
<td>1</td>
<td>41.58</td>
<td>2.49</td>
<td>.11</td>
</tr>
<tr>
<td>Urban</td>
<td>17.63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>17.84</td>
<td>88.88</td>
<td>1</td>
<td>88.88</td>
<td>5.33*</td>
<td>.02</td>
</tr>
<tr>
<td>Female</td>
<td>17.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction (Living place ×Gender)</td>
<td>97.83</td>
<td>97.83</td>
<td>1</td>
<td>97.83</td>
<td>5.86**</td>
<td>.01</td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td>4501.68</td>
<td>270</td>
<td>16.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>88843</td>
<td>274</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant at 0.01 level & *Significant at 0.05 level**
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Figure 4.15: Difference in the Level of Awareness of Secondary School Teachers (belonging to Science Stream) about ‘the Barriers affecting Creativity’ according to Location & Gender (Dimension II)

Figure 4.16: Interaction between the Variables ‘Location & Gender’ in the Level of Awareness about ‘the Barriers related to Creativity’ (Dimension II)

The values given in the table (4.17) and figures (4.15 & 4.16) reveal that ‘F’ value for living place (2.49, P>0.05) is not significant but ‘F’ values for gender and interaction (5.33 and 5.86 respectively, P<0.05) are significant at the specified level. Therefore, the following conclusions can be drawn from the above given table:
(i) There is no significant difference among secondary school teachers (belonging to Science Stream) in the level of awareness about the barriers affecting creativity according to their living place (where, the mean score of rural secondary school teachers is 17.36 while of urban teachers is 17.63). It can be concluded that teachers of Science Stream (living at rural and urban areas) have equal awareness level about the barriers, which may affect creativity.

(ii) There is significant difference among secondary school teachers (belonging to Science Stream) in their awareness level about the barriers affecting creativity according to their gender. The mean score of male secondary school teachers of Science Stream (17.84) is higher than female teachers (17.11). Therefore, it can be concluded that gender plays a significant role in understanding the barriers affecting creativity and male teachers of science stream are more aware about the barriers affecting creativity.

(iii) The table also reveals that there is significant interaction between the variables i.e. living place and gender on their awareness level about the barriers affecting creativity. Thus, null hypothesis (H₀5.2) “there is no significant difference in the level of awareness of secondary school teachers belonging to Science Stream about ‘the barriers affecting creativity’ according to location and gender” is rejected. It can be concluded that male rural teachers are more aware about the barriers affecting creativity.

The result of two-way ANOVA reveals that the teachers living at rural and urban locations have similar level of awareness about barriers affecting creativity’ but male teachers are more aware than their female counterparts. The findings may be attributed to the fact that male teachers have more close inter-personal relationship with their students in comparison to female teachers, therefore, their awareness level regarding the barriers affecting creativity is high than their female counterparts.

**4.2.5.3 Objective 5.3:** To find out the difference in the level of awareness of secondary school teachers (belonging to Science Stream) about ‘enhancing creativity among students’ according to location (rural/urban) and gender (male/female) (Dimension III)
**H₀5.3**: *There is no significant difference in the level of awareness of secondary school teachers (belonging to Science Stream) about ‘enhancing creativity among students’ according to location (rural/urban) and gender (male/female) (Dimension III).*

To test this sub-hypothesis (5.3), two-way ANOVA has been applied. The following table (4.18) and figures (4.17 & 4.18) describe the analysis according to sub-hypothesis:

**Table 4.18: Difference in the Level of Awareness of Secondary School Teachers (belonging to Science Stream) about ‘Enhancing Creativity among Students’ (in relation to Location and Gender) (Dimension III)**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Mean</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>31.27</td>
<td>55.00</td>
<td>1</td>
<td>55.00</td>
<td>2.26</td>
<td>.13</td>
</tr>
<tr>
<td>Urban</td>
<td>30.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>31.19</td>
<td>51.34</td>
<td>1</td>
<td>51.34</td>
<td>2.11</td>
<td>.14</td>
</tr>
<tr>
<td>Female</td>
<td>29.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction (Living place × Gender)</td>
<td></td>
<td>21.37</td>
<td>1</td>
<td>21.37</td>
<td>.88</td>
<td>.34</td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td>6559.25</td>
<td>270</td>
<td>24.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>263587</td>
<td>274</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 4.17: Difference in the Level of Awareness of Secondary School Teachers (belonging to Science Stream) about ‘Enhancing Creativity among Students’ (in relation to Location and Gender) (Dimension III)**
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Figure 4.18: Interaction between the Variables ‘Location & Gender’ in the Level of Awareness about Enhancing Creativity among Students (Dimension III)

The above table (4.18) and figures (4.17 & 4.18) reveal that all ‘F’ values (2.26, 2.11 & 0.88, P>0.05) are not significant. Thus, the following conclusions can be drawn from the above given table:

(i) There is no significant difference in the level of awareness of secondary school teachers (belonging to Science Stream) about enhancing creativity among students according to their living place (where, mean of rural secondary school teachers of Science Stream is 31.27 and of urban teachers is 30.16). Teachers (belonging to Science Stream) living at rural and urban areas have similar awareness level about enhancing creativity among students.

(ii) There is no significant difference in the level of awareness of secondary school teachers (belonging to Science Stream) about enhancing creativity according to their gender (mean score of male secondary school teachers of Science Stream is 31.27 and of female teachers is 30.16). Therefore, it can be concluded that gender does not play any role in the level of awareness about enhancing creativity among students.

(iii) The table also reveals that there is no interaction between both of the variables i.e. living place and gender on the awareness level of awareness about enhancing creativity among students. Thus, null hypothesis (H05.3), “there is no significant
difference in the level of awareness of secondary school teachers belonging to Science Stream about enhancing creativity among students according to location (rural/urban) and gender (male/female)” is accepted.

According to National Curriculum Framework for Teacher Education (2009) teachers are provided training about various methods of enhancing creativity during their training period. All the aspirants are also trained in various tactics of enhancing creativity. That is why gender and location have neutral impact on the awareness of science secondary school teachers about enhancing creativity among students.

4.2.5.4 Objective 5.4: To find out the difference in the level of awareness of secondary school teachers (belonging to Science Stream) about ‘misconceptions related to creativity’ according to location (rural/urban) and gender (male/female) (Dimension IV)

**H₀5.4: There is no significant difference in the level of awareness of secondary school teachers (belonging to Science Stream) about ‘misconceptions related to creativity’ according to location (rural/urban) and gender (male/female) (Dimension IV).**

To test this sub-hypothesis (5.4), two-way ANOVA has been applied. The following table (4.19) and figures (4.19 & 4.20) describe the analysis according to the framed sub-hypothesis:

**Table 4.19: Difference in the Level of Awareness of Secondary School Teachers (belonging to Science Stream) about ‘Misconceptions related to Creativity’ according to Location and Gender (Dimension IV)**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Mean</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>13.73</td>
<td>.63</td>
<td>1</td>
<td>.63</td>
<td>.04</td>
<td>.83</td>
</tr>
<tr>
<td>Urban</td>
<td>13.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>13.87</td>
<td>1.59</td>
<td>1</td>
<td>1.59</td>
<td>.10</td>
<td>.74</td>
</tr>
<tr>
<td>Female</td>
<td>13.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction (Living place × Gender)</td>
<td>2.40</td>
<td>1</td>
<td>2.40</td>
<td>.15</td>
<td>.69</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>4119.60</td>
<td>270</td>
<td>15.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>56301</td>
<td>274</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Figure 4.19: Difference in the Level of Awareness of Secondary School Teachers (belonging to Science Stream) about ‘Misconceptions related to Creativity’ according to Location and Gender (Dimension IV)

Figure 4.20: Interaction between the Variables ‘Location & Gender’ in the Level of Awareness about ‘Misconceptions related to Creativity’ (Dimension IV)

The above table (4.19) and figures (4.19 & 4.20) reveal that ‘F’ values (living place =0.04, gender = 0.10 and interaction = 0.15, \( P>0.05 \)) are not significant. Therefore, the following conclusions can be drawn from the above given table:
(i) There is no significant difference in the level of awareness of secondary school teachers (belonging to Science Stream) about misconceptions related to creativity according to their living place (mean score of rural secondary school teachers of Science Stream is 13.73 while of urban teachers is 13.84). It can be inferred that teachers living at rural and urban locations have similar level of awareness about the misconceptions related to creativity.

(ii) There is no significant difference in the level of awareness of secondary school teachers (belonging to Science Stream) about misconceptions related to creativity according to gender (where, mean score of male secondary school teachers of Science Stream is 13.87 while of female teachers is 13.69). Therefore, it can be concluded that gender does not play significant role in the awareness level about misconceptions related to creativity.

(iii) The table also reveals that there is no interaction between the variables i.e. living place and gender on the awareness level of misconceptions related to creativity. Thus, null hypothesis (H₀₅.₄), “there is no significant difference in the level of awareness of secondary school teachers belonging to Science Stream about misconceptions related to creativity according to location (rural/urban) and gender (male/female)” is accepted.

The results are in agreement with the previous objectives (5& 5.1.). The teachers have similar level of knowledge and attitude towards nurturing creativity that’s why they possess similar level of awareness about misconceptions related to creativity. Along with this, they deal with situations and problems in same way therefore, gender and location do not affect their awareness level.

4.2.5.5 Objective 5.5: To find out the difference in the level of awareness of secondary school teachers (belonging to Science Stream) about ‘indicators of creativity’ according to location (rural/urban) and gender (male/female) (Dimension V)

\( H₀₅.₅: \text{There is no significant difference in the level of awareness of secondary school teachers (belonging to Science Stream) about ‘indicators of creativity’ according to location (rural/urban) and gender (male/female) (Dimension V).} \)
To test this sub-hypothesis (5.5), two-way ANOVA has been applied. The following table (4.20) and figures (4.21 & 4.22) describe the analysis according to the formulated sub-hypothesis:

Table 4.20: Difference in the Level of Awareness of Secondary School Teachers (belonging to Science Stream) about ‘Indicators of Creativity’ (Dimension V)

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Mean</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>12.95</td>
<td>5.42</td>
<td>1</td>
<td>5.42</td>
<td>.53</td>
<td>.46</td>
</tr>
<tr>
<td>Urban</td>
<td>13.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>13.22</td>
<td>8.73</td>
<td>1</td>
<td>8.73</td>
<td>.86</td>
<td>.35</td>
</tr>
<tr>
<td>Female</td>
<td>12.89</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Living place × Gender)</td>
<td>.44</td>
<td>1</td>
<td></td>
<td>.44</td>
<td>.04</td>
<td>.83</td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>49670.00</td>
<td>2723.24</td>
<td>270</td>
<td>10.08</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.21: Difference in the Level of Awareness of Secondary School Teachers (belonging to Science Stream) about ‘Indicators of Creativity’ (Dimension V)
The above table (4.20) and figures (4.21 & 4.22) indicate that all ‘F’ values (living place=0.53, gender=0.86 and interaction=0.04, P>0.05) are not significant. Therefore, the following conclusions can be drawn from the above given table:

(i) There is no significant difference in the awareness level of secondary school teachers (belonging to Science Stream) about the indicators of creativity according to their living place (mean score of rural secondary school teachers of Science Stream = 12.95, mean of urban teachers = 13.17). It confirms that teachers living at rural and urban areas have similar awareness level about the indicators of creativity.

(ii) There is no significant difference in the awareness level of secondary school teachers (belonging to Science Stream) about the indicators of creativity according to their gender (where, mean score of male secondary school teachers of Science Stream is 13.22 while of female teachers is 12.89). Therefore, it can be concluded that gender does not play significant role in the awareness level about indicators of creativity.

(iii) The table also reveals that there is no interaction between the variables i.e. living place and gender on the awareness level about the indicators of creativity. Thus, null hypothesis (H₀5.5), “there is no significant difference in the level of awareness of
secondary school teachers belonging to Science Stream about indicators of creativity according to location (rural/urban) and gender (male/female) is accepted.

In science, teachers have same kind of presentation, classroom and school environment, similar fundamentals and way of thinking so their awareness about indicators of creativity is also of same level.

**4.2.6 Objective 6:** To know the difference in attitude of secondary school teachers (belonging to Arts Stream) towards nurturing creativity according to location (rural/urban) and gender (male/female)

H₀₆: There is no difference in attitude of secondary school teachers (belonging to Arts Stream) towards nurturing creativity according to location (rural/urban) and gender (male/female).

To test this hypothesis (6), two-way ANOVA has been applied. The following table (4.21) and figures (4.23 & 4.24) describe the analysis according to the framed hypothesis:

**Table 4.21: Difference in the Attitude of Secondary School Teachers (belonging to Arts Stream) towards Nurturing Creativity**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Mean</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Effect Size (eta square) ɳ²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>93.09</td>
<td>895.23</td>
<td>1</td>
<td>895.23</td>
<td>5.30*</td>
<td>.02</td>
<td>0.016</td>
</tr>
<tr>
<td>Urban</td>
<td>95.59</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>96.09</td>
<td>1129.72</td>
<td>1</td>
<td>1129.72</td>
<td>6.70**</td>
<td>.01</td>
<td>0.018</td>
</tr>
<tr>
<td>Female</td>
<td>93</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living place × Gender</td>
<td></td>
<td>76.97</td>
<td>1</td>
<td>76.97</td>
<td>.45</td>
<td>.50</td>
<td>0.0047</td>
</tr>
<tr>
<td>Error</td>
<td>63400.16</td>
<td>376</td>
<td>168.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>3458971</td>
<td>380</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Significant at 0.01 level & *Significant at 0.05 level**
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Figure 4.23: Difference in the Attitude of Secondary School Teachers (belonging to Arts Stream) towards Nurturing Creativity according to Location and Gender

Figure 4.24: Interaction between the Variables ‘Location & Gender’ in Attitude towards Nurturing Creativity

The above table (4.21) and figures (4.23 & 4.24) present that ‘F’ value for living place (F= 5.30, P<0.05) and gender (F=6.70, P<0.05) are significant at the specified level, while interaction between the variables i.e. gender and location (F=0.45, P>0.05) is not significant. Thus, the following conclusions can be drawn from the above given table:
(i) There is significant difference in the attitude of secondary school teachers (belonging to Arts Stream) towards nurturing creativity according to living place (rural/urban). The mean score of rural secondary school teachers of Arts Stream (93.09) is higher than the mean score of urban teachers of same stream (95.59). It indicates that the teachers belonging to urban area have more positive attitude towards nurturing creativity.

(ii) There is significant difference in attitude of secondary school teachers (belonging to Arts Stream) towards nurturing creativity according to gender (mean score of male secondary school teachers of Arts Stream = 96.09 while of female teachers is 93). It can be inferred from the table that gender plays significant role in determining the attitude towards nurturing creativity and male teachers of arts stream have more favourable attitude than their female counterparts.

(iii) The table also reveals that there is no interaction between the variables i.e. living place and gender on attitude towards nurturing creativity.

The effect size (0.016) shows that living place may cause only 1.6% variation in the attitude of secondary school teachers towards nurturing creativity. Similarly, gender may cause 1.8% variation in the attitude of secondary school teachers towards nurturing creativity. However, the interaction effect of both of these variables together may cause 0.47% variation in the attitude of secondary school teachers towards nurturing creativity.

Thus, the null hypothesis (H0) “there is no difference in the attitude of secondary school teachers (belonging to Arts Stream) towards nurturing creativity according to location (rural/urban) and gender (male/female)” is rejected.

The result of two-way ANOVA reveals that teachers belonging to urban location in comparison to rural teachers and male teachers in comparison to female teachers (belonging to Arts Stream) have better attitude towards nurturing creativity. The result may be due to many facilities available in urban areas like open environment, more opportunities for exposure etc. There are a number of causes, which may be held responsible for low attitude of female teachers towards nurturing creativity. Female teachers as a whole get less time and opportunities for exposure as they have to play
duel role at both fronts i.e. at work place and home. Naturally, they are torn apart into two as they have to perform at both these fronts with full sincerity and responsibility.

In order to find out the difference among secondary school teachers (belonging to Arts Stream) on various dimensions related to attitude towards nurturing creativity, sub-objectives were formulated. The following paragraphs present the analysis according to the sub-objectives:

4.2.6.1 Objective 6.1: To find out the difference in the level of awareness of secondary school teachers (belonging to Arts Stream) about ‘knowledge related to creativity’ according to location (rural/urban) and gender (male/female) (Dimension I)

\[ H_{06.1}: \text{There is no significant difference in the level of awareness of secondary school teachers (belonging to Arts Stream) about ‘knowledge related to creativity’ according to location (rural/urban) and gender (male/female) (Dimension I).} \]

To test this hypothesis (6.1), two-way ANOVA has been applied. The following table (4.22) and figures (4.25 & 4.26) describe the analysis according to framed sub-hypothesis:

Table 4.22: Difference in the Level of Awareness of Secondary School Teachers (belonging to Arts Stream) about Knowledge related to Creativity’ (Dimension I)

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Mean</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living place</td>
<td>Rural</td>
<td>14.60</td>
<td>55.49</td>
<td>1</td>
<td>55.49</td>
<td>7.03**</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>15.23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>15.30</td>
<td>69.63</td>
<td>1</td>
<td>69.63</td>
<td>8.83**</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>14.62</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td></td>
<td>20.56</td>
<td>1</td>
<td>20.56</td>
<td>2.60</td>
</tr>
<tr>
<td>(Living place ×</td>
<td></td>
<td></td>
<td>2963.95</td>
<td>376</td>
<td>7.88</td>
<td></td>
</tr>
<tr>
<td>Gender)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>88104.00</td>
<td>380</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at 0.01 level
Figure 4.25: Difference in the Level of Awareness of Secondary School Teachers (belonging to Arts Stream) about Knowledge related to Creativity’ (Dimension I)

Figure 4.26: Interaction between the Variables Location & Gender in the Level of Awareness of Knowledge related to Creativity

From the perusal of above table (4.22) and figures (4.25 & 4.26), it is clear that F values for living place and gender (F= 7.03 & 8.83, P<0.01 respectively) are significant at the specified level while ‘F’ value for interaction (2.60, P>0.05) is not significant. Thus, the following conclusions can be drawn from the above given table:
(i) There is significant difference among secondary school teachers of arts stream in their awareness level related to the knowledge of creativity according to living place (rural/urban) (where the mean score of rural secondary school teachers of Arts Stream = 14.60 while of urban teachers = 15.23). It reveals that teachers belonging to urban area have more awareness about creativity than their rural counterparts.

(ii) There is significant difference among secondary school teachers of Arts Stream in the awareness level of the knowledge of creativity according to gender (where, the mean score of male secondary school teachers of arts stream = 15.30 while of female teachers = 14.62). Therefore, it can be concluded that gender plays significant role in the awareness level and male secondary school teachers of arts stream are more aware about the creativity than their female counterparts.

(iii) The table also reveals that there is no interaction between the variables i.e. living place and gender in the awareness level about the knowledge of creativity. On the basis of this analysis, the null hypothesis (H\textsubscript{0.6.1}) “there is no significant difference in the level of awareness of secondary school teachers (belonging to Arts Stream) about ‘knowledge related to creativity’ according to location (rural/urban) and gender (male/female)”is rejected.

The result of two-way ANOVA reveals that teachers belonging to urban location in comparison to rural teachers and male teachers in comparison to female teachers (belonging to Arts Stream) have better awareness level in knowledge related to creativity. The reason behind this result may be that in urban areas teachers get opportunities for career enhancement as well as participation in various curricular and co-curricular activities. That is why urban teachers are more aware in comparison to their rural counterparts. In relation to gender, male teachers significantly have better awareness level than their female counterparts. The reason may be attributed to the fact that male teachers get more opportunities and exposure than their female counterparts that is why their awareness level related to the knowledge of creativity is higher.

4.2.6.2 Objective 6.2: To find out the difference in the level of awareness of secondary school teachers (belonging to Arts Stream) about ‘the barriers affecting creativity’ according to location (rural/urban) and gender (male/female) (Dimension II)
H₆.2: There is no significant difference in the level of awareness of secondary school teachers (belonging to Arts Stream) about ‘the barriers affecting creativity’ according to location (rural/urban) and gender (male/female) (Dimension II).

To test this sub-hypothesis (6.2), two-way ANOVA has been applied. The following table (4.23) and figures (4.27 & 4.28) describe the analysis according to the sub-hypothesis:

Table 4.23: Difference in the Level of Awareness of Secondary School Teachers (belonging to Arts Stream) about ‘the Barriers affecting Creativity’ (Dimension II)

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Mean</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>18.84</td>
<td>10.95</td>
<td>1</td>
<td>10.95</td>
<td>.71</td>
<td>.39</td>
</tr>
<tr>
<td>Urban</td>
<td>19.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>19.29</td>
<td>45.92</td>
<td>1</td>
<td>45.92</td>
<td>3.00</td>
<td>.08</td>
</tr>
<tr>
<td>Female</td>
<td>18.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction (Living place × Gender)</td>
<td>.67</td>
<td>1</td>
<td>.67</td>
<td>.04</td>
<td>.83</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td>5755.09</td>
<td>376</td>
<td>15.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>142530.00</td>
<td>380</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.27: Difference in the Level of Awareness of Secondary School Teachers (belonging to Arts Stream) about ‘the Barriers affecting Creativity’ (Dimension II)
Figure 4.28: Interaction between the Variables ‘Location & Gender ‘in the Level of Awareness about ‘the Barriers affecting Creativity’

The above table (4.23) and figures (4.27 & 4.28) shows that ‘F’ values for living place, gender and interaction (F=0.71, 3.00 & 0.04 respectively, P>0.05) are not significant. Thus, the following conclusions can be drawn from the above given table:

(i) There is no significant difference between the awareness level of secondary school teachers (belonging to Arts Stream) about the barriers affecting creativity according to living place (where, mean score of rural secondary school teachers of Arts Stream = 18.84 while of urban teachers = 19.06). Teachers living at rural and urban locations have same level of awareness about the barriers, which can affect creativity.

(ii) There is no significant difference among secondary school teachers of Arts Stream in their level of awareness about the barriers affecting creativity according to gender (where, mean score of male secondary school teachers of Arts Stream = 19.29 while of female teachers = 18.65). Therefore, it can be concluded that gender does not play any significant role in the understanding of barriers affecting creativity for Arts teachers.

(iii) The table also reveals that there is no interaction between the variables i.e. living place and gender in their level of awareness about the barriers affecting creativity for teachers of Arts Stream.
Thus, the null hypothesis (H₀.6.2) “there is no significant difference in the level of awareness of secondary school teachers of Arts Stream about the barriers affecting creativity according to location (rural/urban) and gender (male/female)” is accepted.

4.2.6.3 Objective 6.3: To find out the difference in the level of awareness of secondary school teachers (belonging to Arts Stream) about ‘enhancing creativity among students’ according to location (rural/urban) and gender (male/female) (Dimension III)

H₀.6.3: There is no significant difference in the level of awareness of secondary school teachers (belonging to Arts Stream) about ‘enhancing creativity among students’ according to location (rural/urban) and gender (male/female) (Dimension III).

To test this sub-hypothesis (6.3), two-way ANOVA has been applied. The following table (4.24) and figures (4.29 & 4.30) reveal the analysis according to framed sub-hypothesis:

Table 4.24: Difference in the Level of Awareness of Secondary School Teachers (belonging to Arts Stream) about Enhancing Creativity (in relation to Location and Gender) (Dimension III)

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Mean</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living place</td>
<td>Rural</td>
<td>31.56</td>
<td>1</td>
<td>41.94</td>
<td>1.40</td>
<td>.23</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>31.99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>32.48</td>
<td>1</td>
<td>189.30</td>
<td>6.33*</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>31.16</td>
<td></td>
<td></td>
<td>.79</td>
<td>.02</td>
</tr>
<tr>
<td>Interaction (Living place × Gender)</td>
<td></td>
<td>.79</td>
<td>1</td>
<td>.79</td>
<td>.02</td>
<td>.87</td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td>11234.79</td>
<td>376</td>
<td>29.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>395840.000</td>
<td>380</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 level
Figure 4.29: Difference in the Level of Awareness of Secondary School Teachers (belonging to Arts Stream) about Enhancing Creativity (in relation to Location and Gender) (Dimension III)

Figure 4.30: Interaction between the Variables ‘Location & Gender ‘in the ‘Level of Awareness about Enhancing Creativity’ (Dimension III)

The above table (4.24) and figures (4.29 & 4.30) expose that ‘F’ value for living place and interaction between both variables i.e. living place and gender (1.40 & 0.02, P>0.05) are not significant but for gender (6.33, P<0.05) the value is significant. Thus, the following conclusions can be drawn from the above given table:

(i) There is no significant difference among secondary school teachers of Arts Stream in the level of awareness about enhancing creativity according to living place (where,
mean score of rural secondary school teachers of Arts Stream is 31.56 and of urban teachers is 31.99). It confirms that teachers of both of the areas have same level of awareness about enhancing creativity among students.

(ii) There is significant difference among secondary school teachers of Arts Stream in the level of awareness about enhancing creativity among students with respect to gender (mean score of male secondary school teachers of Arts Stream is 32.48 while of female teachers is 31.16). Therefore, it can be concluded that gender plays a significant role in the level of awareness about enhancing creativity among students for arts teachers and male teachers have better level of awareness about enhancing creativity.

(iii) The table also reveals that there is no interaction between the variables i.e. living place and gender in the awareness level about enhancing creativity among students for arts teachers. Thus, null hypothesis (H_{6.3}), “there is no significant difference in the level of awareness of secondary school teachers belonging to Arts Stream about enhancing creativity among students according to location (rural/urban) and gender (male/female)” is rejected.

The result of two-way ANOVA reveals that location does not cause any difference in awareness level about enhancing creativity among students but gender affect their level and male teachers in comparison to female teachers (belonging to Arts Stream) have better awareness level about enhancing creativity. The reason behind this result may be that the level of awareness regarding enhancement of creativity is dependent upon pre-service training through which all the aspirant teachers have to undergo. Since pre-service teachers’ training is compulsory and enhancing creativity is an essential component of training course, therefore, all the trainee teachers undergo through similar training program. That is why there is no impact of place of living on awareness level of teachers about enhancing creativity. In spite of it, gender affects teachers’ level because female teachers have to play dual duty at home and at work place so they have less awareness than their male counterparts regarding enhancing creativity among students.

4.2.6.4 Objective 6.4: To find out the difference in the level of awareness of secondary school teachers (of Arts Stream) about ‘misconceptions related to
creativity’ according to location (rural/urban) and gender (male/female) (Dimension IV)

**H₆.4: There is no significant difference in the level of awareness of secondary school teachers (belonging to Arts Stream) about ‘misconceptions related to creativity’ according to location (rural/urban) and gender (male/female) (Dimension IV).**

To test this sub-hypothesis (6.4), two-way ANOVA has been applied. The following table (4.25) and figures (4.31 & 4.32) describe the analysis according to the sub-hypothesis:

**Table 4.25: Difference in the Level of Awareness of Secondary School Teachers (of Arts Stream) about ‘Misconceptions related to Creativity’ according to Location and Gender (Dimension IV)**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Mean</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>14.58</td>
<td>102.52</td>
<td>1</td>
<td>102.52</td>
<td>7.00**</td>
<td>.01</td>
</tr>
<tr>
<td>Urban</td>
<td>15.60</td>
<td>115.60</td>
<td>1</td>
<td>115.60</td>
<td>.24</td>
<td>.62</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>15.23</td>
<td>3.59</td>
<td>1</td>
<td>3.59</td>
<td>.24</td>
<td>.62</td>
</tr>
<tr>
<td>Female</td>
<td>15.08</td>
<td>3.59</td>
<td>1</td>
<td>3.59</td>
<td>.24</td>
<td>.62</td>
</tr>
<tr>
<td>Interaction</td>
<td></td>
<td>111.39</td>
<td>1</td>
<td>111.39</td>
<td>7.61**</td>
<td>.01</td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td>5501.79</td>
<td>376</td>
<td>14.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>93030.00</td>
<td>380</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at 0.01 level

**Figure 4.31: Difference in the Level of Awareness of Secondary School Teachers (of Arts Stream) about ‘Misconceptions related to Creativity’ according to Location and Gender (Dimension IV)
A perusal of the above given table (4.25) and figures (4.31 & 4.32) reveal that $F$ values (living place $= 7.00$ and interaction $= 7.61$, $P<0.01$) are significant, while the value for gender (gender=$0.24$, $P>0.05$) is not significant at the specified level. Therefore, the following conclusions can be drawn from the above given table:

(i) There is significant difference in the level of awareness of secondary school teachers (belonging to Arts Stream) about misconceptions related to creativity according to their living place (mean score of rural secondary school teachers of Arts Stream is 14.58 while of urban teachers is 15.60). It can be inferred that teachers living at urban locations have better level of awareness about the misconceptions related to creativity in comparison to the teachers living at rural locations.

(ii) There is no significant difference in the level of awareness of secondary school teachers (belonging to Arts Stream) about misconceptions related to creativity according to their gender (where, mean score of male secondary school teachers of Arts Stream is 15.23 while of female teachers is 15.08). Therefore, it can be concluded that gender does not play significant role in the awareness level about misconceptions related to creativity.

(iii) The table also reveals that there is significant interaction between the variables i.e. living place and gender on the awareness level of misconceptions related to creativity and male teachers living at urban locations have more awareness about
misconceptions related to creativity than their female counterparts living at rural locations. Thus, null hypothesis ($H_0.4$), “there is no significant difference in the level of awareness of secondary school teachers belonging to Arts Stream about misconceptions related to creativity according to location (rural/urban) and gender (male/female)” is rejected.

The result is in agreement with the previous objective 6.1 that the teachers working at rural areas have lower level of awareness about misconceptions related to creativity. The reason behind this result may be attributed to the conservative attitude of the surrounding people and fewer opportunities are available to rural people to interact and share advancements.

4.2.6.5 Objective 6.5: To find out the difference in the level of awareness of secondary school teachers (belonging to Arts Stream) about ‘indicators of creativity’ according to location (rural/urban) and gender (male/female) (Dimension V)

$H_0.6.5$: There is no significant difference in the level of awareness of secondary school teachers (belonging to Arts Stream) about indicators of creativity according to location (rural/urban) and gender (male/female) (Dimension V).

To test this sub-hypothesis (6.5), two-way ANOVA has been applied. The following table (4.26) and figures (4.33 & 4.34) describe the analysis according to the formulated sub-hypothesis:

Table 4.26: Difference in the Level of Awareness of Secondary School Teachers (belonging to Arts Stream) about ‘Indicators of Creativity’ according to Location & Gender (Dimension V)

<table>
<thead>
<tr>
<th>Source of variance</th>
<th>Mean</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living place</td>
<td>Rural 13.49</td>
<td>6.54</td>
<td>1</td>
<td>6.54</td>
<td>.66</td>
<td>.41</td>
</tr>
<tr>
<td></td>
<td>Urban 13.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>Male 13.77</td>
<td>8.03</td>
<td>1</td>
<td>8.03</td>
<td>.81</td>
<td>.36</td>
</tr>
<tr>
<td></td>
<td>Female 13.46</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>19.95</td>
<td>19.95</td>
<td>1</td>
<td>2.02</td>
<td>.15</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>3708.37</td>
<td>376</td>
<td>9.86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>74165.000</td>
<td>380</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 4.33: Difference in the Level of Awareness of Secondary School Teachers (belonging to Arts Stream) about ‘Indicators of Creativity’ according to Location & Gender (Dimension V)

The above table (4.26) and figures (4.33 & 4.34) indicate that all F values (living place = 0.66, gender = 0.81 and interaction = 2.02, P<0.05) are not significant. Therefore, the following conclusions can be drawn from the above given table:
(i) There is no significant difference in the awareness level of secondary school teachers (of Arts stream) about the indicators of creativity according to their living place (mean score of rural secondary school teachers of arts stream = 13.49, mean of urban teachers = 13.70). It confirms that teachers living at rural and urban areas have similar awareness level about the indicators of creativity.

(ii) There is no significant difference in the awareness level of secondary school teachers (belonging to Arts Stream) about the indicators of creativity according to their gender (where, mean score of male secondary school teachers of science stream is 13.77 while of female teachers is 13.46). Therefore, it can be concluded that gender does not play a significant role in the awareness level about indicators of creativity.

(iii) The table also reveals no interaction between the variables i.e. living place and gender on the awareness level about the indicators of creativity. Thus, null hypothesis (H\textsubscript{0}6.5), “there is no significant difference in the level of awareness of secondary school teachers belonging to Arts Stream about indicators of creativity according to location (rural/urban) and gender (male/female)” is accepted.

The result of two-way ANOVA indicates gender and location do not affect the awareness level of secondary school teachers (belonging to Arts Stream) about indicators of creativity. The result may be attributed to the basic knowledge about the educational and psychological concepts and similar environment of school, where they are teaching.

4.2.7 Objective 7: To assess the quality level of secondary school climate from the point of view of teachers

H\textsubscript{0}7: There is no significant difference between real mean and assumed mean of secondary school teachers regarding their perception of secondary school climate.

To know the quality level of school climate in secondary schools, t test for one sample (assumed mean and real mean ) has been used, where assumed mean = middle response score × total number of items (SAS, 2011). As the data on the variable ‘school climate’ is normally distributed (previously mentioned in table no. 4.2 and in figure no. 4.2) so the inferential statistics can be used. The following table (4.27) and figure (4.35) describe the quality level of school climate in secondary schools according to secondary school teachers.
Table 4.27: Quality Level of Secondary School Climate as Perceived by Teachers

<table>
<thead>
<tr>
<th>Quality level</th>
<th>Sample mean</th>
<th>Expected mean</th>
<th>s.d.</th>
<th>df</th>
<th>t value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>94.37</td>
<td>80</td>
<td>12.48</td>
<td>653</td>
<td>29.45**</td>
<td>.000</td>
</tr>
<tr>
<td>Relationship among teachers, students, parents and society</td>
<td>24.41</td>
<td>20</td>
<td>4.07</td>
<td>653</td>
<td>27.71**</td>
<td>.000</td>
</tr>
<tr>
<td>Physical Facilities</td>
<td>23.52</td>
<td>20</td>
<td>3.97</td>
<td>653</td>
<td>22.72**</td>
<td>.000</td>
</tr>
<tr>
<td>Psychological Environment</td>
<td>23.93</td>
<td>20</td>
<td>3.97</td>
<td>653</td>
<td>25.32**</td>
<td>.000</td>
</tr>
<tr>
<td>Academic Activities</td>
<td>22.50</td>
<td>20</td>
<td>4.22</td>
<td>653</td>
<td>15.13**</td>
<td>.000</td>
</tr>
</tbody>
</table>

**significant at 0.01 level

Figure 4.35: Quality Level of Secondary School Climate as Perceived by Teachers

The above given table (4.27) and figure (4.35) explore that mean score of school climate is 94.37 and expected mean is 80. The ‘t’ value (29.45, P<0.01)is significant at the specified level, which indicates that there is significant difference between real mean and expected mean of secondary school climate as perceived by teachers. It is revealed that the secondary school climate is of better quality. Therefore, it can be concluded that school climate as perceived by the teachers of the sample is of above average level.

Further the perception of teachers about secondary school climate according to the dimensions of the tool has also been assessed. The following paragraphs describe the results according to the dimensions:
The table also reveals that the sample mean (Dimension I: ‘relationship among teachers, students, parents and society’) is 24.41, while expected mean is 20. The ‘t’ value (27.71, P<0.01) is significant at the specified level, which indicates that there is significant difference between real mean and assumed mean and real mean is higher than expected mean. This shows that the level of relationships among teachers, students, parents and society is of better quality (higher than the average level) as perceived by teachers of secondary school.

The sample mean (Dimension II: ‘availability of physical facilities’) is 23.52, while expected mean is 20. The ‘t’ value (22.72, P<0.01) is significant at the specified level, which indicates that there is significant difference between real mean and assumed mean and real mean is higher than expected mean. This shows that the level of availability of physical facilities is of better quality (higher than average level) in secondary school from the point of view of teachers.

The sample mean for third dimension (psychological environment) is 23.92, while expected mean is 20. The ‘t’ value (25.32, P<0.01) is significant at the specified level and indicates that there is significant difference between real and assumed mean and real mean is higher than expected mean. This shows that psychological environment of secondary school is better quality (higher than average level) from the point of view of teachers.

The sample mean for fourth dimension (academic activities) is 22.50, while expected mean is 20. The ‘t’ value (15.13, P<0.01) is significant at the specified level, which indicates that there is significant difference between real and assumed mean and real mean is higher than expected mean. This shows that academic activities in secondary school are of better quality than average level from the point of view of teachers.

To conclude it can be said that the climate of secondary school according to the teachers is of better quality than average level. There is healthy relationship among teachers, students, parents and society, proper availability of physical facilities, psychological environment and students also perform better than average level. Thus, the null hypothesis (H₀) ‘there is no significant difference between real mean and assumed mean of secondary school teachers regarding their perception of secondary school climate’ is rejected.
The findings may be attributed to these reasons that in India, secondary level education serves as a bridge between primary and higher education therefore special emphasis is given to secondary education. Several norms and ethics have been established by education agencies and government, which are necessary to follow and maintain in secondary schools. If any school fails on such parameters, the affiliation of the school is cancelled. Apart from this, continuous evaluation of schools conducted by government and affiliated bodies also inspires to maintain the quality of school. The findings of this objective are in coherence with the studies of Sutherland (1994) and Gunbayi (2007) who found that teachers consider the climate of their schools is of better condition and they like to work there.

4.2.8: Objective 8: To assess the quality level of secondary school climate from the point view of teachers belonging to Science stream

\( H_0 \) 8: There is no significant difference between real mean and assumed mean of secondary school teachers belonging to Science stream regarding their perception of secondary school climate.

To know the quality level of school climate in secondary schools, t test for one sample (assumed mean and real mean) has been applied, where assumed mean = middle response score × total number of items (SAS, 2011). The following table (4.28) and figure (4.36) reveal the quality level of secondary school climate according to the teachers of Science Stream.

<table>
<thead>
<tr>
<th>Quality level</th>
<th>Sample Mean</th>
<th>Expected Mean</th>
<th>s.d.</th>
<th>df</th>
<th>t value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>88.64</td>
<td>80</td>
<td>11.97</td>
<td>273</td>
<td>11.95**</td>
<td>.000</td>
</tr>
<tr>
<td>Relationship among teachers, students, parents and society</td>
<td>22.97</td>
<td>20</td>
<td>3.91</td>
<td>273</td>
<td>12.61**</td>
<td>.000</td>
</tr>
<tr>
<td>Physical Facilities</td>
<td>21.78</td>
<td>20</td>
<td>3.89</td>
<td>273</td>
<td>7.66**</td>
<td>.000</td>
</tr>
<tr>
<td>Psychological Environment</td>
<td>22.75</td>
<td>20</td>
<td>3.79</td>
<td>273</td>
<td>12.06**</td>
<td>.000</td>
</tr>
<tr>
<td>Academic Activities</td>
<td>21.12</td>
<td>20</td>
<td>4.16</td>
<td>273</td>
<td>4.43**</td>
<td>.000</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level
The table (4.28) reveals that the mean value for the quality level of school climate according to science stream teachers is 88.64 while assumed mean is (the score of middle response × total number of items) 80. The ‘t’ value (11.95, P<0.01), which is significant at the specified level indicates that there is significant difference between real mean and expected mean of the quality level of secondary school climate. Higher real mean score depicts that the climate of secondary schools is of better quality (higher than average level) according to the Science teachers.

It is also clear from the above given table that the sample mean for dimension I (relationship among teachers, students, parents and society) according to Science teachers is 22.97, while expected mean is 20. The ‘t’ value (12.61, P<0.01), which is significant at 0.01 level indicates that there is significant difference between real and assumed mean and real mean is higher than expected mean. This shows that the level of relationships among teachers, students, parents and society is of better quality (higher than the average level) in secondary schools from the point of view of science teachers.

The sample mean for third dimension (availability of physical facilities) is 21.78, while expected mean is 20. The ‘t’ value (7.66, P<0.01), which is significant at the specified level indicates that there is significant difference between real and assumed mean and real mean is higher than expected mean. This shows that the level of
availability of physical facilities is of better quality (higher than the average level) in secondary schools from the point of view of Science teachers.

The sample mean for third dimension (psychological environment) is 22.75, while expected mean is 20. The ‘t’ value (12.06, P<0.01), which is significant at 0.01 level indicates that there is significant difference between real and assumed mean and real mean is higher than expected mean. This shows that psychological environment of secondary school is of better quality than average from the point of view of Science teachers.

The sample mean for fourth dimension (academic activities) is 21.12, while expected mean is 20. The ‘t’ value (4.43), which is significant at 0.01 level reveals that there is significant difference between real and assumed mean and real mean is higher than expected mean. This shows that academic activities in secondary school are of better quality than average level from the point of view of Science teachers.

To conclude it can be said that the climate of secondary school according to the Science teachers is of better quality than average level. There is healthy relationship among teachers, students, parents and society, proper availability of physical facilities, psychological environment and students also perform better than average level. Thus, the null hypothesis (H<sub>0</sub>) ‘there is no significant difference between real mean and assumed mean of secondary school teachers belonging to Science stream regarding their perception of secondary school climate’ is rejected.

The findings are quite logical because teaching at secondary level in Science stream requires a number of facilities and paraphernalia to carry out teaching. Therefore school climate is bound to be of better condition as far as various norms are concerned. Similar findings are revealed by the attitude of teachers regarding school climate.

4.2.9: Objective 9: To assess the quality level of secondary school climate from the point view of teachers belonging to Arts Stream

H<sub>0</sub>: There is no significant difference between real mean and assumed mean of secondary school teachers belonging to Arts stream regarding their perception of secondary school climate.
To know the quality level of school climate in secondary schools according to Arts teachers, t test for one sample (assumed mean and real mean) has been used, where assumed mean = middle response score × total number of items (SAS, 2011). The following table (4.29) and figure (4.37) reveal the quality level of secondary school climate according to the teachers of Arts Stream:

**Table 4.29: Quality Level of Secondary School Climate as Perceived by Teachers belonging to Arts Stream**

<table>
<thead>
<tr>
<th>Quality level</th>
<th>Sample mean</th>
<th>Expected mean</th>
<th>s.d.</th>
<th>df</th>
<th>t value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>98.51</td>
<td>80</td>
<td>11.15</td>
<td>379</td>
<td>32.34**</td>
<td>.000</td>
</tr>
<tr>
<td>Relationship among teachers, students, parents and society</td>
<td>25.44</td>
<td>20</td>
<td>3.87</td>
<td>379</td>
<td>27.42**</td>
<td>.000</td>
</tr>
<tr>
<td>Physical Facilities</td>
<td>24.78</td>
<td>20</td>
<td>3.55</td>
<td>379</td>
<td>26.26**</td>
<td>.000</td>
</tr>
<tr>
<td>Psychological Environment</td>
<td>24.78</td>
<td>20</td>
<td>3.89</td>
<td>379</td>
<td>24.02**</td>
<td>.000</td>
</tr>
<tr>
<td>Academic Activities</td>
<td>23.50</td>
<td>20</td>
<td>3.99</td>
<td>379</td>
<td>17.11**</td>
<td>.000</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level

**Figure 4.37: Quality Level of Secondary School Climate as Perceived by Teachers belonging to Arts Stream**

The table (4.29) explains that the mean value for the quality level of school climate according to Arts stream teachers is 98.51 while assumed mean (the score of middle response × total number of items) 80. The ‘t’ value (32.34, P<0.01), which is
significant at the specified level indicates that there is significant difference between real mean and expected mean of the quality level of school climate. Higher real mean score depicts that the climate of secondary schools is of better quality (higher than average level) according to the Arts teachers.

It is also clear from the above given table (4.29) that the sample mean (relationship among teachers, students, parents and society) according to Arts teachers is 25.44, while expected mean is 20. The ‘t’ value (27.42, P<0.01), which is significant at 0.01 level indicates that there is significant difference between real and assumed mean and real mean is higher than expected mean. This shows that the level of relationships among teachers, students, parents and society is of better quality (higher than the average level) in secondary school from the point of view of Arts teachers.

The mean score (availability of physical facilities) is 24.78, while expected mean is 20. The ‘t’ value (26.26, P<0.01), which is significant at the specified level (0.01) reveals that there is significant difference between real and assumed mean and real mean is higher than the expected mean. This shows that the level of availability of physical facilities is of better quality (higher than the average level) in secondary schools from the point of view of Arts teachers.

The sample mean for ‘psychological environment’ is 24.78, while expected mean is 20. The ‘t’ value (24.02, P<0.01), which is significant at the specified level indicates that there is significant difference between real and assumed mean and real mean is higher than expected mean. This shows that psychological environment of secondary schools is of better quality (higher than average level) from the point of view of Arts teachers.

The sample mean (academic activities) is 23.50, while expected mean is 20. The ‘t’ value (17.11, P<0.01) is significant at the specified level and depicts that there is significant difference between real and assumed mean and real mean is higher than expected mean. This shows that academic activities in secondary schools are of better quality (higher than average level) from the point of view of Arts teachers.

To conclude it can be said that the climate of secondary school according to the teachers belonging to Arts stream is of better quality than average level. There is healthy relationship among teachers, students, parents and society, proper availability of physical facilities, psychological environment and students also perform better than
average level. Thus, the null hypothesis (H₀ 9), ‘there is no significant difference between real mean and assumed mean of secondary school teachers belonging to Arts stream regarding their perception of secondary school climate’ is rejected.

The criterion of selecting teachers at secondary level is very rigorous. They undergo through rigorous training process and are supposed to have refined behaviour, modified values and high morale besides having academic excellence. Therefore the school climate according to Arts teachers is of better quality. The findings of the objective 7 and 8 also confirm to this fact.

4.2.10 Objective 10: To know the effect of school climate on attitude of secondary school teachers towards nurturing creativity

H₀ 10: There is no effect of school climate on the attitude of secondary school teachers towards nurturing creativity.

In order to test the above hypothesis linear regression analysis has been used. The data for the same is presented in table 4.30, 4.31 and 4.32.

<table>
<thead>
<tr>
<th>Predictive Variable</th>
<th>R</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Climate</td>
<td>0.45</td>
<td>0.20</td>
<td>0.20</td>
<td>160.72**</td>
</tr>
</tbody>
</table>

**Significant at 0.01 level

The close perusal of table 4.30 shows that coefficient of correlation among the variables is 0.45 and its square is 0.20. This means that 20% of variance in attitude towards nurturing creativity is explained by climate of secondary schools, and the remaining percentage of the variance is still to be accounted for the other variables, which are not included in the study.

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>22342.83</td>
<td>1</td>
<td>22342.83</td>
<td>160.72**</td>
</tr>
<tr>
<td>Residual</td>
<td>90638.03</td>
<td>652</td>
<td>139.02</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>112980.86</td>
<td>653</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Significant at 0.01 level
Further the table 4.31 shows that the F value (F= 160.72, P< 0.01) is significant at 0.01 level. This means that regression model is acceptable and school climate affects significantly the attitude of secondary school teachers towards nurturing creativity. Therefore, the hypothesis (H₀) “there is no impact of school climate on attitude of secondary school teachers towards nurturing creativity” is rejected. Thus, it indicates that the contribution of the predictor variable (school climate) on attitude towards nurturing creativity cannot occur by chance.

Table 4.32: Regression Coefficients

<table>
<thead>
<tr>
<th>Predictive Variable</th>
<th>Unstandardised Coefficients</th>
<th>Standardised Coefficients</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>48.02</td>
<td>13.65**</td>
<td></td>
</tr>
<tr>
<td>School Climate</td>
<td>0.47</td>
<td>0.45</td>
<td>12.68**</td>
</tr>
</tbody>
</table>

**Significant at 0.01 level

As apparent from the table 4.32 the standardized coefficient (β), bearing t value (t=12.68, P< 0.01) significant at 0.01 level, depicts that school climate has the strong predicting power of attitude of secondary school teachers towards nurturing creativity. It means that an increase of per unit in quality level of school climate corresponds by .47 in attitude of secondary school teachers towards nurturing creativity. The regression equation is shown below:

\[ y = bx + \text{constant} \]

\[ y = (\text{Dependent Variable} = \text{Attitude towards nurturing Creativity}) \]

\[ b = \text{Unstandardised Regression Coefficient} \]

\[ x = \text{Raw Score of Independent Variable (School Climate)} \]

\[ c = \text{Constant} \]

Hence,

Attitude towards nurturing Creativity = .47x + 48.02

The graphical presentation of regression line of attitude towards nurturing creativity is shown in fig. 4.38.
Figure 4.38: Graphical Presentation of Showing Variance of School Climate on Attitude towards Nurturing Creativity

4.2.11 Objective 11: To know the effect of school climate on attitude of secondary school teachers towards nurturing creativity according to stream of teaching (Science & Arts)

\( H_0 \) II: There is no effect of school climate on the attitude of secondary school teachers towards nurturing creativity according to stream of teaching (Science & Arts).

In order to test the above hypothesis linear regression analysis has been used. The data for the same is presented in table 4.33, 4.34 and 4.35.

Table 4.33: Regression Analysis among Criterion (Attitude towards Nurturing Creativity) and Predictive Variable (School Climate) for Science and Arts Groups

<table>
<thead>
<tr>
<th>Predictive Variable</th>
<th>R</th>
<th>( R^2 )</th>
<th>Adjusted ( R^2 )</th>
<th>( F ) Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Climate (Science Stream)</td>
<td>0.49</td>
<td>0.24</td>
<td>0.24</td>
<td>87.09**</td>
</tr>
<tr>
<td>School Climate (Arts Stream)</td>
<td>0.34</td>
<td>0.12</td>
<td>0.12</td>
<td>50.25**</td>
</tr>
</tbody>
</table>

**Significant at 0.01 level
The close perusal of table 4.33 reveals that coefficient of correlation among the variables with reference to science stream is 0.49 and its square is 0.24. This means that 24% of variance in attitude towards nurturing creativity is explained by the climate of secondary schools according to Science teachers, and the remaining percentage of the variance is still to be accounted by other variables, which are not included in the study. It is also clear from the table that correlation coefficient among the variables (school climate and attitude towards nurturing creativity) with reference to arts stream is 0.34 and its square is 0.12. This means that 12% of variance in attitude towards nurturing creativity is explained by the climate of secondary schools according to Arts teachers, and the remaining percentage of the variance is still to be accounted by other variables, which are not included in the study.

Table 4.34: Summary of ANOVA for Regression Analysis

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science Stream</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>10445.23</td>
<td>1</td>
<td>10445.23</td>
<td>87.09**</td>
</tr>
<tr>
<td>Residual</td>
<td>32624.26</td>
<td>272</td>
<td>119.94</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>43069.49</td>
<td>273</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Arts Stream</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>7660.125</td>
<td>1</td>
<td>7660.13</td>
<td>50.25**</td>
</tr>
<tr>
<td>Residual</td>
<td>57626.87</td>
<td>378</td>
<td>152.45</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>65287.00</td>
<td>379</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

**Significant at 0.01 level

Further the table 4.34 shows that the F value with reference to both of the streams (For Science stream=F= 87.09, &For Arts stream= F= 50.25, P< 0.01) is significant at 0.01 level. This means that regression model is acceptable and school climate affects significantly the attitude of secondary school teachers towards nurturing creativity with reference to both of the streams (science and arts streams). Therefore, the hypothesis (H0 11) “there is no impact of school climate on attitude of secondary school teachers towards nurturing creativity with reference to stream of teaching” is rejected. Thus, it indicates that the contribution of the predictor variable (school climate) on attitude towards nurturing creativity for science and arts streams cannot occur by chance.
**Table 4.35: Regression Coefficients**

<table>
<thead>
<tr>
<th></th>
<th>Predictive Variables</th>
<th>Unstandardised Coefficients</th>
<th>Standardised Coefficients</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta (β)</td>
</tr>
<tr>
<td>Science Stream</td>
<td>(Constant)</td>
<td>43.31</td>
<td>4.95</td>
<td>0.49</td>
</tr>
<tr>
<td></td>
<td>School Climate</td>
<td>0.52</td>
<td>0.06</td>
<td>0.34</td>
</tr>
<tr>
<td>Arts Stream</td>
<td>(Constant)</td>
<td>54.80</td>
<td>5.64</td>
<td>0.34</td>
</tr>
<tr>
<td></td>
<td>School Climate</td>
<td>0.40</td>
<td>0.06</td>
<td>0.34</td>
</tr>
</tbody>
</table>

**Significant at 0.01 level**

The above given table (4.35) reveals that standardized coefficient (β) of science stream, bearing t value (t=8.75, P< 0.01) and standardized coefficient (β) of arts stream (t=9.33, P< 0.01) are significant at 0.01 level. It depicts that school climate has the strong predicting power of attitude of secondary school teachers towards nurturing creativity for science and arts streams. It means that an increase of per unit in quality level of school climate corresponds by 0.49 in attitude of secondary school teachers towards nurturing creativity belonging to science stream and by 0.34 in attitude of secondary school teachers towards nurturing creativity belonging to arts stream. The regression equation is shown below:

**Regression Equation for Science Stream:**

\[ y = bx + constant \]

- \( y = \) Dependent Variable = Attitude towards nurturing Creativity (for science stream)
- \( b = \) Unstandardised Regression Coefficient for science stream
- \( x = \) Raw Score of Independent Variable (School Climate)
- \( c = \) Constant

Hence,

Attitude towards nurturing Creativity (for Science teachers) = 0.52x + 43.31

**Regression Equation for Arts Stream:**

\[ y = bx + constant \]

- \( y = \) Dependent Variable = Attitude towards nurturing Creativity (for arts stream)
b = Unstandardised Regression Coefficient for arts stream

x = Raw Score of Independent Variable (School Climate)

c = Constant

Hence,

Attitude towards nurturing Creativity (for Arts teachers) = 0.40x + 54.80

The graphical presentation of regression line of attitude towards nurturing creativity is shown in fig. 4.39.

**Figure 4.39:** Graphical Presentation of Showing Variance of School Climate on Attitude towards Nurturing Creativity according to Stream of Teaching
4.12 **Objective 12:** To construct structured equation model to represent the mathematical relationship between the components of attitude of secondary school teachers towards nurturing creativity and school climate

<table>
<thead>
<tr>
<th>Used Terms</th>
<th>Full Form of Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concept</strong></td>
<td>Concept of Creativity</td>
</tr>
<tr>
<td><strong>Factors</strong></td>
<td>Factors affecting Creativity</td>
</tr>
<tr>
<td><strong>Enhancement</strong></td>
<td>Enhancement of Creativity among Students</td>
</tr>
<tr>
<td><strong>Myths</strong></td>
<td>Myths/ Misconceptions related to Creativity</td>
</tr>
<tr>
<td><strong>Indicators</strong></td>
<td>Indicators of Creativity</td>
</tr>
<tr>
<td><strong>Relationships</strong></td>
<td>Relationship among teachers, students, parents and society</td>
</tr>
<tr>
<td><strong>Facilities</strong></td>
<td>Physical Facilities</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td>Psychological Environment</td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td>Academic Activities</td>
</tr>
</tbody>
</table>

**Figure 4.40:** Structured Equation Model for representing the relationships between the domains attitude of secondary school teachers towards nurturing creativity and school climate

The figure (4.40) represents the model drawn from AMOS, which represents the estimation between the school climate and domains of attitude of secondary school teachers towards nurturing creativity as well as the estimations between attitude of secondary school teachers towards nurturing creativity and the domains of school climate. The following tables describe the interpretation of the values of the model:
Table 4.36: Computation of degrees of freedom (Default model)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of distinct sample</td>
<td>45</td>
</tr>
<tr>
<td>moments:</td>
<td></td>
</tr>
<tr>
<td>Number of distinct parameters</td>
<td>18</td>
</tr>
<tr>
<td>to be estimated:</td>
<td></td>
</tr>
<tr>
<td>Degrees of freedom (45 - 18):</td>
<td>27</td>
</tr>
</tbody>
</table>

Table 4.37: Result (Default model)

<table>
<thead>
<tr>
<th>Minimum was achieved</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>739.714</td>
</tr>
<tr>
<td>Degrees of freedom</td>
<td>27</td>
</tr>
<tr>
<td>Probability level</td>
<td>.000</td>
</tr>
</tbody>
</table>

The tables (4.36 & 4.37) indicate that the probability to fix the model is significant and the model type is over identified because the degree of freedom is positive in other words it means that the mathematical basics are available in the data to construct the model.

Table 4.38: Model Fit Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>NPAR</th>
<th>CMIN</th>
<th>DF</th>
<th>P</th>
<th>CMIN/DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default model</td>
<td>18</td>
<td>739.714</td>
<td>27</td>
<td>.000</td>
<td>27.397</td>
</tr>
<tr>
<td>Saturated model</td>
<td>45</td>
<td>.000</td>
<td>0</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Independence model</td>
<td>9</td>
<td>1906.846</td>
<td>36</td>
<td>.000</td>
<td>52.968</td>
</tr>
</tbody>
</table>

The p value for default model fit is significant, which means goodness fit for the model and the data of the variables are fit according to the standards of structure equation model.

Table 4.39: Parsimony-Adjusted Measures

<table>
<thead>
<tr>
<th>Model</th>
<th>PRATIO</th>
<th>PNFI</th>
<th>PCFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default model</td>
<td>.750</td>
<td>.459</td>
<td>.464</td>
</tr>
<tr>
<td>Saturated model</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Independence model</td>
<td>1.000</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>
The saturated (loaded) model of adjusted measures is significant, which confirms that the contribution of each part in the model is mathematically appropriate.

Table 4.40: RMSEA

<table>
<thead>
<tr>
<th>Model</th>
<th>RMSEA</th>
<th>LO 90</th>
<th>HI 90</th>
<th>PCLOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default model</td>
<td>.201</td>
<td>.189</td>
<td>.214</td>
<td>.000</td>
</tr>
<tr>
<td>Independence model</td>
<td>.282</td>
<td>.271</td>
<td>.293</td>
<td>.000</td>
</tr>
</tbody>
</table>

The p close value for default model and independence model are significant, which implies that the goodness of fit for the model has been fulfilled and the model type is over identified.

Table 4.41: Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

<table>
<thead>
<tr>
<th>Concept</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhancement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myths</td>
<td>.846</td>
<td>.095</td>
<td>8.944</td>
<td>***</td>
<td>par_3</td>
</tr>
<tr>
<td>Indicators</td>
<td>.698</td>
<td>.076</td>
<td>9.162</td>
<td>***</td>
<td>par_4</td>
</tr>
<tr>
<td>Relationships</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilities</td>
<td>1.130</td>
<td>.076</td>
<td>14.924</td>
<td>***</td>
<td>par_5</td>
</tr>
<tr>
<td>Environment</td>
<td>.931</td>
<td>.067</td>
<td>13.929</td>
<td>***</td>
<td>par_6</td>
</tr>
<tr>
<td>Activities</td>
<td>.779</td>
<td>.069</td>
<td>11.369</td>
<td>***</td>
<td>par_7</td>
</tr>
</tbody>
</table>

The p value for regression weights of all the domains in both tools are significant which mean that regression weights are in good balance in all the variables of the model.
Table 4.42: Correlation estimations up to Model (Figure no. 4.40)

<table>
<thead>
<tr>
<th>Domains of Attitude Towards Nurturing Creativity</th>
<th>School Climate</th>
<th>Domains of School Climate</th>
<th>Attitude Towards Nurturing Creativity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept of Creativity</td>
<td>.52</td>
<td>Relationship among teachers, students, parents and society</td>
<td>.49</td>
</tr>
<tr>
<td>Factors affecting Creativity</td>
<td>.36</td>
<td>Physical Facilities</td>
<td>.65</td>
</tr>
<tr>
<td>Enhancement of Creativity among Students</td>
<td>.38</td>
<td>Psychological Environment</td>
<td>.44</td>
</tr>
<tr>
<td>Myths/ Misconceptions related to Creativity</td>
<td>.19</td>
<td>Academic Activities</td>
<td>.27</td>
</tr>
<tr>
<td>Indicators of Creativity</td>
<td>.20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The perusal of the above given table (4.42) representing the values of the figure no. (4.40, made by AMOS program) shows that the School Climate estimates the ‘Concept of Creativity’ 0.52 and estimates ‘Factors affecting Creativity’ 0.36. It is contributing in ‘enhancing creativity among students’ 0.38, in ‘misconceptions related to creativity’ 0.19 and in ‘indicators of creativity’ 0.20. So we can say that the school climate is very important factor in determining the attitude of teachers towards nurturing creativity.

The table also represents that attitude towards nurturing creativity estimates 0.49 the ‘relationship among teachers, students, parents and society’ as an important component of school climate, estimate 0.65 the facilities available in school, 0.44 psychological environment and 0.27 the academic activities of the school. Statistically, these values are acceptable values as the AMOS program approved them and also theoretically it is logical because attitude of teachers towards nurturing creativity is main construct in the school climate also in the development of psychological environment of any school.

Generally, all the estimations for the domains of school climate have a high values on ‘Attitude of teachers Towards Nurturing Creativity’ as well as the domains of Attitude of teachers Towards Nurturing Creativity have good estimations on ‘school climate’.