Chapter 10

Analysis of Data and Interpretation of the Results
CHAPTER IV

ANALYSIS OF DATA AND INTERPRETATION OF THE RESULTS

Scores relating to school climates, personality types [Extroversion-Introversion] Home climates and three dimensions - Emotional Exhaustion, Depersonalization and Personal Accomplishment of burnout of 517 physical education teachers working in secondary schools constituted the raw data for the present study. The data were subjected to statistical treatment in pursuance of objectives of the study and research hypotheses. The analysis of data is presented in this chapter under five sections. Section -1 deals with classification of secondary schools and of physical education teachers. This section also deals with the constitution of treatment groups and selection of appropriate technique for analysis of data. Section – 2 deals with analysis of data on Emotional Exhaustion of physical education teachers. Section – 3 deals with analysis of data on Depersonalization of physical education teachers. Section – 4 deals with analysis of data on Personal Accomplishment of physical education teachers, and Section –5 deals with the overall conclusions of the study.
SECTION - 1

CLASSIFICATION OF SECONDARY SCHOOLS OF PHYSICAL EDUCATION TEACHERS

4.1. Classification of Secondary Schools

Keeping in view the scores on School Organisational Climate Description Questionnaire and treating the secondary school as a unit, 517 secondary schools were classified into schools with different climates by converting raw scores into doubly standardized scores and comparing climate profile with the six prototype profiles.\(^1\)

As a result of this analysis the schools were classified as detailed in the following table:
Further, the sample of secondary schools are grouped under 'open' and 'closed' climates only, since the first three of the six categories reflect different degrees of openness whereas the last three categories portray different degrees of closedness. As a result of this analysis, 223 secondary schools belonged to 'open climate' and 294 to 'closed climate'.

Table 4.1: School Organisational Climates and Corresponding number of Secondary Schools

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>School Organisational Climate</th>
<th>No. of Secondary Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Open</td>
<td>52</td>
</tr>
<tr>
<td>2.</td>
<td>Autonomous</td>
<td>73</td>
</tr>
<tr>
<td>3.</td>
<td>Familiar</td>
<td>98</td>
</tr>
<tr>
<td>4.</td>
<td>Controlled</td>
<td>91</td>
</tr>
<tr>
<td>5.</td>
<td>Paternal</td>
<td>143</td>
</tr>
<tr>
<td>6.</td>
<td>Closed</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>517</td>
</tr>
</tbody>
</table>
4.2. Classification of Physical Education Teachers According to their Personality types [Extroversion-Introversion]

Based on the directions given in the manual pertaining to personality types (Extroversion-Introversion) physical education teachers were classified into Extroverts and Introverts. As a result of this analysis 355 were found to be Extroverts and 162 Introverts.²

4.3. Classification of Physical Education Teachers According to their Home Climates

Keeping in view the scores of physical education teachers on Home Climate Description Scale (HCDS), they were classified as individuals coming from Happy and Unhappy Home climates using the 'mean' of scores of all the subjects as the criterion i.e., cutting point. As a result of this analysis, 285 were found to come from homes of Happy climate and 232 from homes of Unhappy climate. It may be repeated here that this classification was done to facilitate analysis of data on the three dimensions of burnout.
Table 4.2: School-wise, Personality-wise and Home Climate wise Classification of Physical Education Teachers

<table>
<thead>
<tr>
<th>School Organisational Climate</th>
<th>Personality Type</th>
<th>Home Climate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>223</td>
<td>294</td>
<td></td>
</tr>
<tr>
<td>355</td>
<td>162</td>
<td></td>
</tr>
<tr>
<td>285</td>
<td>232</td>
<td></td>
</tr>
</tbody>
</table>

Total = 517

4.4. Constitution of Treatment Groups

The present study will have three independent factors – School Climate (A), Personality (B) and Home Climate (C). Factors A, B and C have a, b and c levels respectively. In the present study, Factor-A has two levels (a₁, a₂), Factor-B has two levels (b₁, b₂) and Factor-C has two levels (c₁, c₂). Here a₁ of Factor-A indicates open school climate, a₂ closed school climate; b₁ of Factor-B indicates Extroversion and b₂ Introversion; and c₁ of Factor-C indicates Happy home climate and c₂ indicates Unhappy home climate. Thus, in this case there will be ‘abc’ treatment combinations giving rise to 8 treatment groups. Each case of the sample in the study is analysed.
in terms of the above treatment combinations and the subjects are fixed into their respective groups. For the convenience of presentation, Factor-A has been arranged on the horizontal axis and Factor-B and C have been arranged on the vertical axis. Dimension wise burnout scores of each subject was placed in the appropriate cell in the table as per the above referred procedure. This forms the layout of the $2 \times 2 \times 2$ factorial design for the present study.
Table 4.3: A 2 x 2 x 2 Factorial Design of Data on Emotional Exhaustion – A Dimension of Burnout

<table>
<thead>
<tr>
<th>Personality (B)</th>
<th>Extroversion (b1)</th>
<th>Introversion (b2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Happy (C1)</td>
<td>Unhappy (C2)</td>
</tr>
<tr>
<td>School Climate (A)</td>
<td>Home Climate (C)</td>
<td></td>
</tr>
<tr>
<td>0 4 7</td>
<td>10 12 14 17 21</td>
<td>0 12 14 18 25</td>
</tr>
<tr>
<td>1 5 7</td>
<td>10 12 14 17 22</td>
<td>1 12 14 18 26</td>
</tr>
<tr>
<td>1 5 7</td>
<td>10 12 14 18 23</td>
<td>3 12 14 18 27</td>
</tr>
<tr>
<td>1 6 7</td>
<td>10 13 14 18 23</td>
<td>4 12 14 19 27</td>
</tr>
<tr>
<td>1 6 7</td>
<td>11 13 14 18 23</td>
<td>5 12 15 19</td>
</tr>
<tr>
<td>1 6 8</td>
<td>11 13 14 18 23</td>
<td>7 12 15 19</td>
</tr>
<tr>
<td>1 6 8</td>
<td>11 13 15 18 24</td>
<td>7 13 15 19</td>
</tr>
<tr>
<td>1 6 8</td>
<td>11 13 15 18 25</td>
<td>8 13 16 20</td>
</tr>
<tr>
<td>3 6 9</td>
<td>12 13 15 19 25</td>
<td>8 13 16 21</td>
</tr>
<tr>
<td>3 6 9</td>
<td>12 13 15 19 30</td>
<td>8 13 16 22</td>
</tr>
<tr>
<td>3 6 9</td>
<td>12 13 15 20 33</td>
<td>9 13 17 24</td>
</tr>
<tr>
<td>3 6 9</td>
<td>12 13 16 20 33</td>
<td>11 14 17</td>
</tr>
<tr>
<td>4 6 9</td>
<td>12 13 16 21 33</td>
<td>12 14</td>
</tr>
<tr>
<td>4 6 9</td>
<td>14 16 34</td>
<td></td>
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<tr>
<td>4 10</td>
<td>37</td>
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</table>

142
<table>
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<tr>
<th></th>
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<th>4</th>
<th>7</th>
<th>9</th>
<th>12</th>
<th>14</th>
<th>18</th>
<th>24</th>
<th>4</th>
<th>11</th>
<th>14</th>
<th>22</th>
<th>30</th>
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<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>7</td>
<td>9</td>
<td>12</td>
<td>14</td>
<td>18</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>16</td>
<td>20</td>
<td>30</td>
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<tr>
<td>2</td>
<td>5</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>15</td>
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<td>26</td>
<td>2</td>
<td>2</td>
<td>4</td>
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<tr>
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<td>5</td>
<td>8</td>
<td>10</td>
<td>13</td>
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<td>16</td>
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<td>5</td>
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<td>11</td>
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<td>5</td>
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<td>4</td>
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<td>14</td>
<td>17</td>
<td>24</td>
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<td>6</td>
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<td>12</td>
<td>14</td>
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<td>6</td>
<td>19</td>
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<td>38</td>
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</tr>
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<td>9</td>
<td>12</td>
<td>14</td>
<td>18</td>
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<td>13</td>
<td>6</td>
<td>20</td>
<td>30</td>
<td>15</td>
<td>21</td>
<td></td>
</tr>
</tbody>
</table>

Closed climate (a)
Table 4.4: Computational Values with respect to Data in Table 4.3 (E,E)

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>$a_1b_1c_1$</th>
<th>$a_1b_1c_2$</th>
<th>$a_1b_2c_1$</th>
<th>$a_1b_2c_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>114 $n_{111}$</td>
<td>53 $n_{112}$</td>
<td>31 $n_{121}$</td>
<td>25 $n_{122}$</td>
</tr>
<tr>
<td>$\Sigma x$</td>
<td>1417</td>
<td>753</td>
<td>427</td>
<td>372</td>
</tr>
<tr>
<td>$\Sigma x^2$</td>
<td>24607</td>
<td>12669</td>
<td>8199</td>
<td>6774</td>
</tr>
<tr>
<td>$M$</td>
<td>12.430 $\bar{Y}_{111}$</td>
<td>14.208 $\bar{Y}_{112}$</td>
<td>13.774 $\bar{Y}_{121}$</td>
<td>14.88 $\bar{Y}_{122}$</td>
</tr>
<tr>
<td>$S$</td>
<td>7.833</td>
<td>6.098</td>
<td>8.646</td>
<td>7.039</td>
</tr>
<tr>
<td>$S^2$</td>
<td>61.356</td>
<td>37.186</td>
<td>74.753</td>
<td>49.548</td>
</tr>
<tr>
<td>Treatment Group</td>
<td>$a_2b_1c_1$</td>
<td>$a_2b_1c_2$</td>
<td>$a_2b_2c_1$</td>
<td>$a_2b_2c_2$</td>
</tr>
<tr>
<td>N</td>
<td>102 $n_{211}$</td>
<td>86 $n_{212}$</td>
<td>38 $n_{221}$</td>
<td>68 $n_{222}$</td>
</tr>
<tr>
<td>$\Sigma x$</td>
<td>1132</td>
<td>1505</td>
<td>651</td>
<td>1190</td>
</tr>
<tr>
<td>$\Sigma x^2$</td>
<td>16584</td>
<td>33065</td>
<td>13791</td>
<td>25562</td>
</tr>
<tr>
<td>$M$</td>
<td>11.098 $\bar{Y}_{211}$</td>
<td>17.5 $\bar{Y}_{212}$</td>
<td>17.132 $\bar{Y}_{221}$</td>
<td>17.5 $\bar{Y}_{222}$</td>
</tr>
<tr>
<td>$S$</td>
<td>6.279</td>
<td>8.845</td>
<td>8.332</td>
<td>8.346</td>
</tr>
<tr>
<td>$S^2$</td>
<td>39.426</td>
<td>78.234</td>
<td>69.422</td>
<td>69.656</td>
</tr>
</tbody>
</table>

$N$ = Number of observations  
$\Sigma x$ = Sum of raw scores  
$\Sigma x^2$ = Sum of squared raw scores  
$M$ = Mean  
$S$ = Standard Deviation  
$S^2$ = Variance
The data in the table 4.4 relates to three factor fixed effects model with interaction and unequal number of observations per cell.

The corresponding model is as follows:

Model:

\[ Y_{ijkM} = \mu + \alpha_i + \beta_j + \gamma_k + \alpha\beta_{ij} + \beta\gamma_{jk} + \alpha\gamma_{ik} + \alpha\beta\gamma_{ijk} + \varepsilon_{ijkM} \]

\[ i = 1, 2; \ j = 1, 2; \ k = 1, 2; \ m = 1, 2, \ldots \ldots \ldots n_{ijk} \]

where,

\[ \mu = \text{Usual grand mean effect} \]

\[ \alpha_i = \text{Effect due to } i^{th} \text{ level of Factor } - A \]

\[ \beta_j = \text{Effect due to } j^{th} \text{ level of Factor } - B \]

\[ \gamma_k = \text{Effect due to } k^{th} \text{ level of Factor } - C \]

\[ \alpha\beta_{ij} = \text{Interaction between } i^{th} \text{ level of Factor } - A \text{ and } j^{th} \text{ level of Factor } - B \]

\[ \beta\gamma_{jk} = \text{Interaction between } j^{th} \text{ level of Factor } - B \text{ and } k^{th} \text{ level of Factor } - C \]

\[ \alpha\gamma_{ik} = \text{Interaction between } i^{th} \text{ level of Factor } - A \text{ and } k^{th} \text{ level of Factor } - C \]

\[ \alpha\beta\gamma_{ijk} = \text{Second order interaction between } i^{th} \text{ level of Factor } - A, \ j^{th} \text{ level of Factor } - B \text{ and } k^{th} \text{ level of Factor } - C \]

\[ \varepsilon_{ijkM} = \text{Random error component, assumed to be normally distributed with Mean 0 and Variance } \alpha^2 \]
SECTION - 2

ANALYSIS OF DATA PERTAINING TO EMOTIONAL EXHAUSTION - A DIMENSION OF BURNOUT

In pursuance of the objectives 1 to 7 stated in Chapter III the following research hypotheses and the corresponding null hypotheses were set up.

Research Hypotheses

RH₁: Effects of open and closed school climates differ significantly in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.

RH₂: Effects of Extroversion and Introversion personality Types differ significantly in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.

RH₃: Effects of Happy and Unhappy Home climates differ significantly in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.
RH4: Interaction effect of School Climates x Personality Types differ significantly in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.

RH5: Interaction effect of Personality Types x Home Climates differ significantly in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.

RH6: Interaction effect of School Climates x Home Climates differ significantly in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.

RH7: Interaction effect of School Climates x Personality Types x Home Climates differ significantly in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.

Null Hypotheses

HO1: There is no significant difference between the effects of open and closed school climates in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.
HO₂: There is no significant difference between the effects of Extroversion and Introversion personality Types in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.

HO₃: There is no significant difference between the effects of Happy and Unhappy Home Climates in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.

HO₄: There is no significant difference between the interaction effect of school climates x Personality Types in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.

HO₅: There is no significant difference between the interaction effect of Personality types x Home climates in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.

HO₆: There is no significant difference between the interaction effect of school climates x Home Climates in terms of proneness to
burnout of physical education teachers on Emotional Exhaustion.

HO: There is no significant difference between the interaction effect of school x climates x Personality Types x Home Climates in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.

To test the above null hypotheses, 3-way Analysis of Variance technique was used.

Application of ANOVA Technique

The rationale of the analysis of variance is that the total variability of a set of measures composed of several groups, can be partitioned into specific parts, each identifiable with a given source of variation. The principle involved in the analysis of variance is the comparison of variability between the various groups with the sum of variability within the groups.³

As 3-way analysis of variance permits the simultaneous study of three factors as well as interactions, this technique was selected for the purpose of analysis of data.
Figure - 1: Flow Chart of 3-way Analysis of Variance

Start

↓

Step - 1

↓

State the research hypotheses (Hₐ) and null hypotheses (Hₒ)

Step - 2

↓

Specify the level of significance

Step - 3

↓

Compute -

i. Correction term (C)

ii. Total Sum of Squares (SST)

iii. Error Sum of Squares (SSE)

iv. Weighted Sum of Squares between the levels of Factor - A (SSAw)

v. Weighted Sum of Squares between the levels of Factor - B (SSBw)

vi. Weighted Sum of Squares between the levels of Factor - C (SSCw)
vii. Weighted Sum of Squares due to the interaction of factors – A and B (SSABw)

viii. Weighted Sum of Squares due to the interaction of factors – B and C (SSBCw)

ix. Weighted Sum of Squares due to the interaction of factors – A and C (SSACw)

x. Weighted Sum of Squares due to the interaction of factor – A, B and C (SSABCw)

Step - 4
Partitioning of total degrees of freedom (df_total)

Step - 5
Compute –
Mean Squares of Factors – A, B, C, A x B, B x C, A x C and A x B x C

Step - 6
Compute –
‘F’ ratios of Factors A, B, C, A x B, B x C, A x C and A x B x C

Step - 7
Compare the obtained ‘F’-ratios with tabled ‘F’-ratios and make statistical decision (Accept/Reject Ho’s)
4.5. Steps of Computing 3-Way ANOVA

Using a hand calculator (FX-115s V.PAM) these step-wise computations (Vide Figure – 1) are done with reference to data on (Vide Table 4.3 & 4.4) a dimension of burnout, i.e., Emotional Exhaustion as detailed below:

Step – 1: Stating Research and Null Hypotheses

The respective research and null hypotheses have been stated earlier in the beginning of this section.

Step – 2: Specifying the level of Significance

The commonly used level of significance 0.05 has been set.

Step – 3: Computation of C, SST, SSE, SSAw, SSBw, SSCw, SSABw, SSBCw, SSACw and SSABCw.

i) Correction term (C)

The correction term is obtained by adopting following procedure:

- Add up the sum of raw scores of all the treatment groups
- Square the obtained Sum (G)
Divide G by the total number of observations. Hence,

\[ C = \frac{G}{N} \]

\[
\therefore C = \frac{(1417 + 753 + 427 + 372 + 1132 + 1505 + 651 + 1190)^2}{517}
\]

\[ = \frac{(7447)^2}{517} \]

\[ C = 107268.489 \]

ii) Total Sum of Squares (SST)

The total sum of squares is obtained by summing the squares of each of the 517 scores (or the entire set of observations) and subtracting the correction term from it.

\[ SST = (0)^2 + (1)^2 + (1)^2 + \ldots \ldots \ldots \ (37)^2 - C \]

\[ SST = (24607 + 12699 + 8199 + 6774 + 16584 + 33065 + 13791 \]
\[ + 25562) - C \]

\[ = 141251 - 107268.489 \]

\[ SST = 33982.511 \]
iii) Error Sum of Square (SSE)

Error sum square is obtained in the following way. Each of the eight treatment groups scores are squared and summed separately, and they are further summed together. This whole sum is represented by $X$, likewise, the sum of scores of each of the eight treatment groups is squared and than divided by the corresponding number of observations and then summed up. This whole sum is represented by $Y$. Error sum of square is simply obtained by subtracting $Y$ into $X$ i.e.,

$$\text{SSE} = X - Y$$

where,

$$X = \sum_{i=1}^{2} \sum_{j=1}^{2} \sum_{k=1}^{2} \sum_{m=1}^{m_{ik}} Y_{ijkm}^2$$

and

$$Y = \sum_{i=1}^{2} \sum_{j=1}^{2} \sum_{k=1}^{2} \left[ \frac{Y_{ijk}}{n_{ijk}} \right]^2$$
Therefore,

\[
SSE = 24607 + 12669 + 8199 + 6774 + 16584 + 33065 + 13791 + 25562 - \frac{(1417)^2}{114} + \frac{(753)^2}{53} \\
+ \frac{(427)^2}{31} + \frac{(372)^2}{25} + \frac{(1132)^2}{102} + \frac{(1505)^2}{86} + \frac{(651)^2}{38} + \frac{(1190)^2}{68}
\]

\[= 141251 - 110606.423 \]

\[
SSE = 30644.577
\]

iv. **Weighted Sum of Squares between the levels of Factor-A**

(SSAw)

This is obtained by using the formula stated below:\(^4\)

\[
SSA_w = \sum_{i=1}^{2} W_i \left( \bar{Y}_{i.} - \frac{\sum_{i=1}^{2} W_i \bar{Y}_{i.}}{\sum_{i=1}^{2} W_i} \right)
\]

where

\[
\bar{Y}_{i.} = \frac{1}{bc} \sum_{j=1}^{2} \sum_{k=1}^{2} \frac{Y_{ijk}}{n_{ijk}}
\]

\[
\frac{1}{W_i} = \frac{1}{b^2c^2} \sum_{j=1}^{2} \sum_{k=1}^{2} \frac{1}{n_{ijk}}
\]
\[ \bar{Y}_{1..} = \frac{1}{bc} \left( \bar{Y}_{111} + \bar{Y}_{121} + \bar{Y}_{112} + \bar{Y}_{122} \right) \]

Factor B has b levels  
Factor C has c levels

\[ = \frac{1}{2 \times 2} (12.430 + 13.774 + 14.208 + 14.880) \]

\[ = \frac{1}{4} \times 55.292 \]

\[ \therefore \bar{Y}_{1..} = 13.823 \]

\[ \bar{Y}_{2..} = \frac{1}{bc} \left( \bar{Y}_{211} + \bar{Y}_{221} + \bar{Y}_{212} + \bar{Y}_{222} \right) \]

\[ = \frac{1}{2 \times 2} (11.098 + 17.132 + 17.500 + 17.500) \]

\[ = \frac{1}{4} \times 63.230 \]

\[ \therefore \bar{Y}_{2..} = 15.808 \]

\[ W_{1} = \frac{1}{b^{2}c^{2}} \left( \frac{1}{n_{111}} + \frac{1}{n_{121}} + \frac{1}{n_{112}} + \frac{1}{n_{122}} \right) \]

\[ = \frac{1}{4 \times 4} \left( \frac{1}{114} + \frac{1}{31} + \frac{1}{53} + \frac{1}{25} \right) \]

\[ = \frac{1}{16} (.009 + .032 + .019 + .040) \]

\[ = \frac{1}{16} \times 0.1 \]

\[ \frac{1}{W_{1}} = .006 \]

\[ \therefore W_{1} = \frac{1}{.006} = 166.67 \]
\[
\frac{1}{V_2} = \frac{1}{b^2c^2} \left( \frac{1}{n_{211}} + \frac{1}{n_{221}} + \frac{1}{n_{212}} + \frac{1}{n_{222}} \right) \\
= \frac{1}{4 \times 4} \left( \frac{1}{102} + \frac{1}{38} + \frac{1}{86} + \frac{1}{68} \right) \\
= \frac{1}{16} (0.010 + 0.026 + 0.012 + 0.015) \\
= \frac{1}{16} \times 0.063 \\
\frac{1}{W_2} = 0.004 \\
\therefore W_2 = \frac{1}{0.004} = 250
\]

SSAw = \[ W_1 \bar{Y}_{1..} - \bar{W}_1 \bar{\bar{Y}}_{1..} + W_2 \bar{Y}_{2..} \]

\[
= \frac{166.67 \times 13.823 + 250 \times 15.808}{166.67 + 250} \\
= 166.67 \left( 13.823 - \frac{15.014}{416.67} \right)^2 + 250 \left( 15.808 - \frac{15.014}{416.67} \right)^2 \\
= 166.67(13.823 - 15.014)^2 + 250(15.808 - 15.014)^2 \\
= 166.67(1.418)^2 + 250(6.695)^2 \\
= 236.338 + 157.5 \\
= 393.838
\]

\[ \therefore \text{Weighted Sum of Squares between the levels of Factor - A (SSAw) = 393.838} \]
v. Weighted Sum of Squares between the levels of Factor-B (SSBw)

This is obtained by using the formula stated below:

\[ \text{SSB}_w = \sum_{i}^2 W_i \left( \bar{\tilde{Y}}_{.j} \cdot - \sum_{i}^2 W_i \bar{\tilde{Y}}_{.j} / \sum W_i \right) \]

where,

\[ \bar{\tilde{Y}}_{.j} = \frac{1}{ac} \sum_{i=1}^2 \sum_{k=1}^2 \frac{\bar{Y}_{ijk}}{n_{ijk}} \text{ and} \]

\[ \frac{1}{W_i} = \frac{1}{a^2c^2} \sum_{i=1}^2 \sum_{k=1}^2 \frac{1}{n_{ijk}} \]

\[ \bar{\tilde{Y}}_{.} = \frac{1}{4} \left( \bar{Y}_{111} + \bar{Y}_{211} + \bar{Y}_{112} + \bar{Y}_{212} \right) \]

Factor B has b levels
Factor C has c levels

\[ = \frac{1}{2 \times 2} (12.430 + 11.098 + 14.208 + 17.5) \]

\[ = \frac{1}{4} \times 55.236 \]

\[ \therefore \bar{\tilde{Y}}_{.1} = 13.809 \]

\[ \bar{\tilde{Y}}_{.2} = \frac{1}{ac} \left( \bar{Y}_{121} + \bar{Y}_{221} + \bar{Y}_{122} + \bar{Y}_{222} \right) \]

\[ \frac{1}{2 \times 2} (13.774 + 17.132 + 14.88 + 17.5) \]

\[ = \frac{1}{4} \times 63.286 \]

\[ \therefore \bar{\tilde{Y}}_{.2} = 15.822 \]
\[
\frac{1}{W_1} = \frac{1}{a^2c^2} \left( \frac{1}{n_{111}} + \frac{1}{n_{211}} + \frac{1}{n_{112}} + \frac{1}{n_{212}} \right)
\]

\[= \frac{1}{4 \times 4} \left( \frac{1}{114} + \frac{1}{102} + \frac{1}{53} + \frac{1}{86} \right) \]

\[= \frac{1}{16} \left( 0.009 + 0.010 + 0.019 + 0.012 \right) \]

\[= \frac{1}{16} \times 0.05 \]

\[\frac{1}{W_1} = 0.003 \]

\[\therefore W_1 = \frac{1}{0.003} = 333.33 \]

\[W_2 = a^2c^2 \left( \frac{1}{n_{121}} + \frac{1}{n_{221}} + \frac{1}{n_{122}} + \frac{1}{n_{222}} \right) \]

\[= \frac{1}{4 \times 4} \left( \frac{1}{31} + \frac{1}{38} + \frac{1}{25} + \frac{1}{68} \right) \]

\[= \frac{1}{16} \left( 0.032 + 0.026 + 0.04 + 0.015 \right) \]

\[\frac{1}{W_2} = 0.007 \]

\[\therefore W_2 = \frac{1}{0.007} = 142.857 \]
SSBw = \( W_1 \tilde{Y}_1 - \left( \frac{W_1 \tilde{Y}_1 + W_2 \tilde{Y}_2}{W_1 + W_2} \right)^2 + W_2 \left\{ \tilde{Y}_2 - \frac{W_1 \tilde{Y}_1 + W_2 \tilde{Y}_2}{W_1 + W_2} \right\}^2 \)

\[
\begin{bmatrix}
333.33 \times 13.809 - 333.33 \times 13.809 + 142.857 \times 15.822 \\
333.33 + 142.857
\end{bmatrix}
\]

\[
142.857 \times 15.822 - 333.33 \times 13.809 + 142.857 \times 15.822 \\
333.33 + 142.857
\]

\[
= 333.33 \times (13.809 - 14.413)^2 + 142.857 \times (15.822 - 14.413)^2
\]

\[
= 333.33 \times (0.365) + 142.857 \times (1.985)
\]

\[
= 121.665 + 283.571
\]

\[
= 405.236
\]

\[
\therefore \text{Weighted Sum of Squares between the levels of Factor - B \ (SSBw) = 405.236}
\]
vi. **Weighted Sum of Squares between the levels of Factor-C (SSC)**

This is obtained by using the formula stated below:

\[
SSC_w = \sum_{k=1}^{W_k} \left( \bar{Y}_{..k} - \bar{Y}_{..} \right)^2 / \sum W_k
\]

where

\[
\bar{Y}_{..k} = \frac{1}{ab} \sum_{i=1}^{a} \sum_{j=1}^{b} \bar{Y}_{ijk}
\]

\[
\bar{Y}_{..} = \frac{1}{W_k a^2 b^2} \sum_{i=1}^{a} \sum_{j=1}^{b} \frac{1}{n_{ijk}}
\]

\[
\bar{Y}_{..} = \frac{1}{ab} \left( \bar{Y}_{11..} + \bar{Y}_{21..} + \bar{Y}_{12..} + \bar{Y}_{22..} \right)
\]

Factor A has \( a \) levels

Factor B has \( b \) levels

\[
= \frac{1}{2 \times 2} (12.430 + 11.098 + 13.774 + 17.132)
\]

\[
= \frac{1}{4} \times 54.434
\]

\[
\therefore \bar{Y}_{..} = 13.609
\]
\[
\bar{Y}_{..2} = \frac{1}{ab} \left( \bar{Y}_{112.} + \bar{Y}_{212.} + \bar{Y}_{122.} + \bar{Y}_{222.} \right) \\
= \frac{1}{2 \times 2} \left( 14.208 + 17.5 + 14.88 + 17.5 \right) \\
= \frac{1}{4} \times 64.088 \\
\therefore \bar{Y}_{..2} = 16.022
\]

\[
\frac{1}{W_1} = \frac{1}{a^2b^2} \left( \frac{1}{n_{111}} + \frac{1}{n_{211}} + \frac{1}{n_{121}} + \frac{1}{n_{221}} \right) \\
= \frac{1}{4 \times 4} \left( \frac{1}{114} + \frac{1}{102} + \frac{1}{31} + \frac{1}{38} \right) \\
= \frac{1}{16} \left( .009 + .010 + .032 + .026 \right) \\
= \frac{1}{16} \times 0.077 \\
\frac{1}{W_1} = \frac{1}{.005} \\
\therefore W_1 = 200
\]

\[
\frac{1}{W_2} = \frac{1}{a^2b^2} \left( \frac{1}{n_{112}} + \frac{1}{n_{212}} + \frac{1}{n_{122}} + \frac{1}{n_{222}} \right) \\
= \frac{1}{4 \times 4} \left( \frac{1}{53} + \frac{1}{86} + \frac{1}{25} + \frac{1}{68} \right) \\
= \frac{1}{16} \left( .019 + .012 + .04 + .015 \right) \\
= \frac{1}{16} \times .086 \\
\frac{1}{W_2} = \frac{1}{.005} \\
\therefore W_2 = 200
\]
SSC_w = \frac{W_1 \tilde{Y}_{..1} - \frac{W_1 \tilde{Y}_{..1} + W_2 \tilde{Y}_{..2}}{W_1 + W_2}}{W_1 + W_2}^2 + \frac{W_2 \tilde{Y}_{..2} - \frac{W_1 \tilde{Y}_{..1} + W_2 \tilde{Y}_{..2}}{W_1 + W_2}}{W_1 + W_2}^2

\left[ 200 \left( 13.609 - \frac{200 \times 13.609 + 200 \times 16.022}{200 + 200} \right)^2 + \right.

\left. 200 \times 16.022 - \frac{200 \times 13.609 + 200 \times 16.022}{200 + 200} \right]^2 \right]

= 200(13.609 - 14.816)^2 + 200(16.022 - 14.816)^2

= 200(1.457) + 200(1.454)

= 231.4 + 230.8

= 462.2

\therefore \text{Weighted Sum of Squares between the levels of Factor - C (SSC}_w) = 462.2
vii. Weighted Sum of Squares due to the interaction of factors A and B (SSABw)

This is obtained by using the formula stated below:

\[
SSAB_w = \frac{1}{c} \sum_{k=1}^{2} \left( \bar{Y}_{11k} - \bar{Y}_{12k} - \bar{Y}_{21k} + \bar{Y}_{22k} \right)^2 \times \left[ \frac{1}{c^2} \sum_{k=1}^{2} \left( \frac{1}{n_{11k}} + \frac{1}{n_{12k}} + \frac{1}{n_{21k}} + \frac{1}{n_{22k}} \right)^{-1} \right]
\]

\[
= \left[ \frac{1}{c} \left( \bar{Y}_{111} - \bar{Y}_{112} - \bar{Y}_{221} + \bar{Y}_{222} \right) \right]^2 \times \left[ \frac{1}{c^2} \left( \frac{1}{n_{111}} + \frac{1}{n_{112}} + \frac{1}{n_{121}} + \frac{1}{n_{122}} + \frac{1}{n_{212}} + \frac{1}{n_{221}} + \frac{1}{n_{222}} \right)^{-1} \right]
\]

\[
= \left[ \frac{1}{2} \left( 12.430 + 14.208 - 13.774 - 14.88 - 11.098 - 17.5 + 17.312 + 17.5 \right) \right]^2 \times \left[ \frac{1}{4} \left( 0.009 + 0.019 + 0.032 + 0.04 + 0.010 + 0.012 + 0.026 + 0.015 \right) \right]^{-1}
\]

\[
= \left[ \frac{1}{2} \left( 4.018 \right) \right]^2 \times \left[ \frac{1}{4} \left( 0.163 \right) \right]^{-1}
\]

\[
= \left[ \frac{1}{4} \left( 16.44 \times 4 \times \frac{1}{0.163} \right) \right]
\]

\[
= \frac{16.144}{0.163} = 99.043
\]

∴ Weighted sum of squares due to the interaction of factors A and B (SSABw) = 99.043
viii. Weighted sum of squares due to the interaction of factors B and C (SSBC_w)

This is obtained by using the formula stated below:

\[
SSBC_w = \frac{1}{n} \sum_{i=1}^{2} \left( \bar{Y}_{i11} - \bar{Y}_{i12} - \bar{Y}_{i21} + \bar{Y}_{i22} \right)^2 \times \left[ \frac{1}{a^2} \sum_{i=1}^{2} \left( \frac{1}{n_{i11}} + \frac{1}{n_{i12}} + \frac{1}{n_{i21}} + \frac{1}{n_{i22}} \right) \right]^{-1}
\]

\[
= \frac{1}{2} \left\{ 12.430 + 11.098 - 14.208 - 17.5 - 13.774 - 17.132 + 14.88 + 17.5 \right\}^2
\times \left[ \frac{1}{4} \left\{ 0.009 + 0.019 + 0.032 + 0.04 + 0.010 + 0.012 + 0.026 + 0.015 \right\} \right]^{-1}
\]

\[
= \frac{1}{2} (-6.706)^2 \times \left[ \frac{1}{4} (1.63) \right]^{-1}
\]

\[
= \frac{1}{4} (44.970) \times \left[ \frac{1}{4} (1.63) \right]^{-1}
\]

\[
= \frac{1}{4} \times 44.970 \times 4 \frac{1}{1.63}
\]

\[
= \frac{44.970}{1.63} = 275.890
\]

\[ \therefore \text{Weighted sum of squares due to the interaction of factors B and C (SSBC_w) = 275.890} \]
ix. **Weighted Sum of Squares due to the interaction of factors A and C (SSACₜ)**

This is obtained directly by using the formula stated below:

\[
SSACₜ = \frac{1}{b} \sum_{j=1}^{2} \left( \frac{1}{b^2} \sum_{j=1}^{2} \frac{1}{n_{ij1}} + \frac{1}{n_{ij2}} + \frac{1}{n_{ij21}} + \frac{1}{n_{ij22}} \right) - 1
\]

\[
\left( \frac{1}{b} \left( \sum_{i=1}^{2} \frac{1}{n_{i11}} + \frac{1}{n_{i12}} - \sum_{i=1}^{2} \frac{1}{n_{i21}} + \frac{1}{n_{i22}} \right) \right)^2
\]

\[
\times \frac{1}{b^2} \left( \sum_{i=1}^{2} \frac{1}{n_{i11}} + \frac{1}{n_{i12}} + \frac{1}{n_{i12}} + \frac{1}{n_{i21}} + \frac{1}{n_{i22}} \right) - 1
\]

\[
= \left[ \frac{1}{2} \left\{ 12.430 + 13.774 - 14.208 - 14.88 - 11.098 - 17.132 + 17.5 + 17.5 \right\} \right]
\]

\[
\times \left[ \frac{1}{4} \left\{ 0.09 + 0.32 + 0.19 + 0.04 + 0.01 + 0.02 + 0.01 + 0.015 \right\} \right]
\]

\[
\frac{1}{2} (3.886)^2 \times \frac{1}{4} (0.163)^{-1}
\]

\[
= \frac{1}{4} (15.101) \times \left( \frac{4}{0.163} \right)
\]

\[
\frac{15.101}{0.163} = 92.644
\]

:. Weighted sum of squares due to the interaction of factors A and C (SSACₜ) = 92.644
x. Weighted Sum of Squares due to the interaction of factors A, B and C (SSABCw)

This is obtained directly by using the formula stated below:

\[
SSABC_w = SST - SSA_w - SSB_w - SSC_w - SSAB_w - SSBC_w - SSAC_w - SSE
\]

\[
\]

\[
= 1609.083
\]

Weighted sum of squares due to the interaction of factors A, B and C

(\(SSABC_w\)) = 1609.083
Step-4: Partitioning of total degrees of freedom (\(df_{\text{total}}\))

The partitioning of degrees of freedom is schematically presented as under:

**Figure – 2: Partitioning of Total df**

\[
\begin{align*}
\text{Total} & \quad nabc - 1 \\
\text{Bet. Treatments} & \quad abc - 1 \\
\text{Wit. Treat. (error)} & \quad abc(n-1)
\end{align*}
\]

\[
\begin{array}{c|c|c|c|c}
1 & A_{a-1} & B_{b-1} & C_{c-1} & AB_{(a-1)(b-1)} \quad BC_{(b-1)(c-1)} \\
\hline
\end{array}
\]

\[
\begin{array}{c|c|c|c}
\text{ABC}_{(a-1)(b-1)(c-1)} & \text{AC}_{(a-1)(c-1)}
\end{array}
\]

\(a = \text{number of levels of factor } A\)
\(b = \text{number of levels of factor } B\)
\(c = \text{number of levels of factor } C\)
\(nabc = \text{total number of subjects or observations in the experiment.}\)

Double lined rectangles represent the final partitioning of degrees of freedom (df).
In the equation from the partitioning of the total degrees of freedom may be expressed as follows:

\[ df_{\text{total}} = df_{\text{betw. treat}} + df_{\text{wit. treat}} \]

\[ df_A + df_B + df_C + df_{AB} + df_{BC} + df_{AC} + df_{ABC} + df_{w.treat} \]

where,

\[ df_{\text{total}} \] = total degrees of freedom associated with the total sum of squares (nabc-1)

\[ df_{\text{betw. treat}} \] = degrees of freedom associated with the sum of squares between abc treatments (abc-1)

\[ df_{\text{wit. treat}} \] = degrees of freedom associated with the sum of squares within the treatments or due to experimental error abc (n-1).

\[ df_A \] = degrees of freedom associated with the sum of squares between the a levels of factor-A (a-1).

\[ df_B \] = degrees of freedom associated with the sum of squares between the b levels of factor-B (b-1).
\( df_c = \) degrees of freedom associated with the sum of squares between the \( c \) levels of factor-C (\( c-1 \)).

\( df_{AB} = \) degrees of freedom associated with the sum of squares due to the interaction of factors A and B \([ (a-1)(b-1) ] \).

\( df_{BC} = \) degrees of freedom associated with the sum of squares due to the interaction of factors B and C \([ (b-1)(c-1) ] \).

\( df_{AC} = \) degrees of freedom associated with the sum of squares due to the interaction of factors A and C \([ (a-1)(c-1) ] \).

\( df_{ABC} = \) degrees of freedom associated with the sum of squares due to the interaction of factors A, B and C \([ (a-1)(b-1)(c-1) ] \).
Factors A, B and C have two levels each and the number of subjects (observations) are 517. Entering these values, all the degrees of freedom are calculated as under:

\[d_{\text{total}} = (n_{abc} - 1) = (517 - 1) = 516\]

\[d_{\text{betw.treat}} = (abc - 1) = (2 \times 2 \times 2 - 1) = 7\]

\[d_{\text{w.treat}} = abc (n - 1) = 516 - 7 = 509\]

\[d_{A} = (a - 1) = (2 - 1) = 1\]

\[d_{B} = (b - 1) = (2 - 1) = 1\]

\[d_{C} = (c - 1) = (2 - 1) = 1\]

\[d_{AB} = (a - 1) (b - 1) = (2 - 1) (2 - 1) = 1\]

\[d_{BC} = (b - 1) (c - 1) = (2 - 1) (2 - 1) = 1\]

\[d_{AC} = (a - 1) (c - 1) = (2 - 1) (2 - 1) = 1\]

\[d_{ABC} = (a - 1) (b - 1) (c - 1) = (2 - 1) (2 - 1) (2 - 1) = 1\]
Step 5: Mean Squares of Factors A, B, C, A x B, B x C, A x C, and A x B x C

Mean squares of all the above mentioned terms are obtained by dividing all the calculated sums of squares with the corresponding degrees of freedom.

<table>
<thead>
<tr>
<th>Term</th>
<th>Sum of Squares (SS)</th>
<th>Degrees of Freedom (df)</th>
<th>Mean Square (MS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSA</td>
<td>SSw</td>
<td>df_A</td>
<td>393.838</td>
</tr>
<tr>
<td>MSB</td>
<td>SSb</td>
<td>df_B</td>
<td>405.236</td>
</tr>
<tr>
<td>MSC</td>
<td>Ssc</td>
<td>df_C</td>
<td>462.2</td>
</tr>
<tr>
<td>MSAB</td>
<td>SSAb</td>
<td>df_AB</td>
<td>99.043</td>
</tr>
<tr>
<td>MSBC</td>
<td>SSBC</td>
<td>df_BC</td>
<td>275.890</td>
</tr>
<tr>
<td>MSAC</td>
<td>SSAC</td>
<td>df_AC</td>
<td>92.644</td>
</tr>
<tr>
<td>MSABC</td>
<td>SSABC</td>
<td>df_ABC</td>
<td>1609.083</td>
</tr>
<tr>
<td>MSE</td>
<td>SSE</td>
<td>df_Error (509)</td>
<td>60.205</td>
</tr>
</tbody>
</table>
Step - 6: F-ratios of factors - A, B, C, A x B, B x C, A x C and A x B x C

'F'-ratios of all the above mentioned terms are obtained by dividing all the calculated mean squares by the error mean square.

<table>
<thead>
<tr>
<th>F-ratio of Factor</th>
<th>MS</th>
<th>MSE</th>
<th>=</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor A</td>
<td>MSA</td>
<td>393.838</td>
<td>60.205</td>
<td>=</td>
<td>6.542</td>
<td></td>
</tr>
<tr>
<td>Factor B</td>
<td>MSB</td>
<td>405.236</td>
<td>60.205</td>
<td>=</td>
<td>6.731</td>
<td></td>
</tr>
<tr>
<td>Factor C</td>
<td>MSC</td>
<td>462.2</td>
<td>60.205</td>
<td>=</td>
<td>7.677</td>
<td></td>
</tr>
<tr>
<td>Factor AxB</td>
<td>MSAB</td>
<td>99.043</td>
<td>60.205</td>
<td>=</td>
<td>1.645</td>
<td></td>
</tr>
<tr>
<td>Factor BxC</td>
<td>MSBC</td>
<td>275.890</td>
<td>60.205</td>
<td>=</td>
<td>4.583</td>
<td></td>
</tr>
<tr>
<td>Factor AxC</td>
<td>MSAC</td>
<td>92.644</td>
<td>60.205</td>
<td>=</td>
<td>1.539</td>
<td></td>
</tr>
<tr>
<td>Factor AxBxC</td>
<td>MSABC</td>
<td>1609.083</td>
<td>60.205</td>
<td>=</td>
<td>26.72</td>
<td></td>
</tr>
</tbody>
</table>

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Summary table of analysis of variance is given below:

Table 4.5: Summary Table of ANOVA with respect to Emotional Exhaustion – A Dimension of Burnout

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F-ratio</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>1</td>
<td>393.838</td>
<td>393.838</td>
<td>6.542</td>
<td>S</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>405.236</td>
<td>405.236</td>
<td>6.731</td>
<td>S</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>462.2</td>
<td>462.2</td>
<td>7.677</td>
<td>S</td>
</tr>
<tr>
<td><strong>2-way interactions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A x B</td>
<td>1</td>
<td>99.043</td>
<td>99.043</td>
<td>1.645</td>
<td>N.S.</td>
</tr>
<tr>
<td>B x C</td>
<td>1</td>
<td>275.890</td>
<td>275.890</td>
<td>4.583</td>
<td>S</td>
</tr>
<tr>
<td>A x C</td>
<td>1</td>
<td>92.644</td>
<td>92.644</td>
<td>1.539</td>
<td>N.S.</td>
</tr>
<tr>
<td><strong>3-way interactions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A x B x C</td>
<td>1</td>
<td>1609.083</td>
<td>1609.083</td>
<td>26.727</td>
<td>S</td>
</tr>
<tr>
<td>Error</td>
<td>509</td>
<td>30644.577</td>
<td>60.205</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>516</td>
<td>33982.511</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NS: Not Significant, S: Significant

Table F = 3.86, df = 0.05
Step-7: Comparing the obtained F-ratios with the corresponding

Table F-ratios and making Statistical Decision

Significance of obtained $F_A$, $F_B$, $F_C$, $F_{AB}$, $F_{BC}$, $F_{AC}$ and $F_{ABC}$ ratios are determined by referring to Table - F (J.P. Guilford and Benjamin Fruchter) with df 1 (numerator) and 516 (denominator). The corresponding Tabled F-ratio for all these Factors is 3.86 at 0.05 level.

1. The obtained F-ratio in respect of the Factor - A is 6.542 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the null hypothesis ($H_{O1}$) is rejected.

2. The obtained F-ratio in respect of the Factor - B is 6.731 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the null hypothesis ($H_{O2}$) is rejected.

3. The obtained F-ratio in respect of the Factor - C is 7.677 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the null hypothesis ($H_{O3}$) is rejected.
4. The obtained F-ratio in respect of interaction between the Factor - 
A and B is 1.645 and the corresponding tabled F-ratio is 3.86. 
Since the obtained F-ratio is less than the tabled F-ratio at 0.05 
level, the difference is not significant. Therefore, the null 
hypothesis (HO4) is accepted.

5. The obtained F-ratio in respect of interaction between the Factor - 
B and C is 4.583 and the corresponding tabled F-ratio is 3.86. 
Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 
level, the difference is significant. Therefore, the null hypothesis 
(HO5) is rejected.

6. The obtained F-ratio in respect of interaction between the Factor - 
A and C is 1.539 and the corresponding tabled F-ratio is 3.86. 
Since the obtained F-ratio is lesser than the tabled F-ratio at 0.05 
level, the difference is not significant. Therefore, the null 
hypothesis (HO6) is accepted.

7. The obtained F-ratio in respect of interaction between the factors 
A, B and C is 26.727 and the corresponding tabled F-ratio is 3.86. 
Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 
the difference is significant. Therefore, the null hypothesis 
(HO7) is rejected.
4.6. **Findings - Emotional Exhaustion**

On the basis of the above analysis, among the null hypotheses \( H_{O1}, H_{O2}, H_{O3}, H_{O4}, \) \( H_{O5}, H_{O6} \) and \( H_{O7} \) only \( H_{O1}, H_{O2}, H_{O3} \) and \( H_{O7} \) are accepted and the remaining \( H_{O4} \) and \( H_{O6} \) are rejected, thereby \( H_{R1}, H_{R2}, H_{R3}, H_{R5} \) and \( H_{R7} \) are accepted and the remaining \( H_{R4} \) and \( H_{R6} \) are rejected. This implies that:

1. There is a significant difference between the effects of open and closed school climates in terms of proneness to burnout of physical education teachers on Emotional Exhaustion.

   However, the means of Emotional Exhaustion scores of open and closed school climates are 13.823 and 15.808 respectively. Since, the two means clearly reveals that, closed school climate has a greater mean than that of the mean of open school climate, it can be interpreted that, physical education teachers working in schools with closed climate are more prone to burnout on Emotional Exhaustion than those working in schools with open climate.

   It has been observed that higher mean scores of Emotional Exhaustion subscale correspond to higher degrees of experienced burnout.\(^6\)
2. There is a significant difference between the effects of Extrovert and Introvert personality type in terms of proneness to burnout of physical education teachers on Emotional Exhaustion. However, the means of Emotional Exhaustion scores of Extrovert and Introvert physical education teachers are 13.809 and 15.822 respectively. From that, it is evident that, Introvert physical education teachers have a greater mean than those of Extroverts. Hence, it can be concluded that Introvert physical education teachers are more prone to burnout on Emotional Exhaustion than their counterparts.

3. There is a significant difference between the effects of Happy and Unhappy Home Climates in terms of proneness to burnout of physical education teachers on Emotional Exhaustion. However, the means of Emotional Exhaustion scores of physical education teachers coming from homes of Happy and Unhappy Home climate are 13.609 and 16.022 respectively. From this it is evident that, physical education teachers coming from homes of Unhappy climates have greater mean than those of physical education teachers coming from homes of Happy climate.
Hence, it can be concluded that, physical education teachers coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than their counterparts.

4. Extrovert/Introvert physical education teachers working in school with open/closed climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

5. Extrovert/Introvert physical education teachers coming from homes of Happy/Unhappy climate differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

Table 4.6: Treatment groups, means and corresponding n's with respect to Emotional Exhaustion

<table>
<thead>
<tr>
<th>Treatment Groups</th>
<th>Means</th>
<th>n's</th>
</tr>
</thead>
<tbody>
<tr>
<td>b₁ c₁</td>
<td>11.801 (\bar{Y}_{11})</td>
<td>216 (n_{11})</td>
</tr>
<tr>
<td>b₁ c₂</td>
<td>16.245 (\bar{Y}_{12})</td>
<td>139 (n_{12})</td>
</tr>
<tr>
<td>b₂ c₁</td>
<td>15.623 (\bar{Y}_{21})</td>
<td>69 (n_{21})</td>
</tr>
<tr>
<td>b₂ c₂</td>
<td>16.796 (\bar{Y}_{22})</td>
<td>93 (n_{22})</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>517</td>
</tr>
</tbody>
</table>
Vide table 4.6 there are 4 treatment groups of physical education teachers. The obtained F-ratio (4.583) with reference to finding 5, indicates that the treatment groups differ significantly. However, it is not clear from the above finding that which of the comparisons of the treatment groups differ significantly in terms of their proneness to burnout on Emotional Exhaustion. Hence, to know this, comparison of means of all the treatment groups was carried out.

It is a common practice to run 't' test for the comparison of means. But sax warns that statistically, it is a mistake to run t-tests following an analysis of variance. There are two reasons for this. In the first place if there are ten means to compare, there will be 45 different combinations to test. Not only does this entail much work, but it increases the probability that Type-1 errors will increase. Second, should Experimenter decide to select 2-most extreme means to test, then the next-2, etc., an important assumption is violated, namely, that all groups have been 'randomly' sampled from the same population.
However to overcome the above mentioned short comings Scheffe's has proposed a method of determining which means differ significantly following a F-test. Hence, this test has been employed in the study.

4.7. Scheffe's Test for the Comparison of Means

The following Scheffe's formula used for the comparison of means.8

\[
\hat{\Psi} - S\hat{\sigma}_{\hat{\Psi}} \leq \Psi \leq \hat{\Psi} + S\hat{\sigma}_{\hat{\Psi}}
\]

where,

\( \Psi' \) = Difference between treatment means

\( \hat{\Psi} \) = Estimate of the difference between treatment means

\( S \) = Multiplier

\( \hat{\sigma}_{\Psi} \) = Standard Error
The steps for carrying out Scheffe’s test are given as follows:

Step 1: Determine the Standard Error \( \hat{\sigma}_{\bar{y}} \)

\[
\hat{\sigma}_{\bar{y}} = \sqrt{\text{MSE} \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}
\]

where,

\( \hat{\sigma}_{\bar{y}} \) = Standard Error

\( \text{MSE} \) = Error mean Square

\( n_1 \) = Number of observations corresponding to the first mean used for comparison

\( n_2 \) = Number of observations corresponding to the second mean used for comparison

Step 2: Calculate the value of S (Multiplier)

This can be obtained from the ordinary F-table and is equal to

\[
S = \sqrt{(V-1)F\alpha(V-1,\phi)}
\]

where,

\( V \) = Number of means involved in the comparison

\( \alpha \) = Level of significance

\( \phi \) = Number of degrees of freedom associated with the error variance
p 3 : Calculate the difference between means

\[ \hat{\Psi} = \bar{Y}_{111} - \bar{Y}_{112}. \]

p 4 : Compute the (Simultaneous Confidence interval) values using the formula

\[ \hat{\Psi} - S\hat{\sigma} \leq \Psi \leq \hat{\Psi} + S\hat{\sigma} \]

p 5: Determine the Significance difference between the Means

Simultaneous confidence intervals with (+, +) or (−, −) values indicate the significance.

The obtained means of different treatment groups pertaining to notional Exhaustion are presented in the following table for comparison using Scheffe’s test.

From the table 4.6 means of treatment group b1c1 (11.801) and b1c2 (6.245) are compared using the steps of Scheffe’s test.
Step 1: Determine the Standard Error ($\hat{\sigma}_\psi$)

$$\hat{\sigma}_\psi = \sqrt{\text{MSE} \left( \frac{1}{n_{i11}} + \frac{1}{n_{i12}} \right)}$$

$$= \sqrt{60.205 \left( \frac{1}{216} + \frac{1}{139} \right)}$$

$$= \sqrt{60.205 \times .005 + .007}$$

$$= \sqrt{60.205 \times .012}$$

$$= \sqrt{.722}$$

$$= 0.850$$

$\therefore$ Standard Error $\hat{\sigma}_\psi = 0.850$

Step 2: Calculate the Value of S (Multiplier)

$$S = \sqrt{(V - 1) \, F_\alpha (V - 1, \varphi)}$$

$$= \sqrt{(2 - 1) \times 3.86} \, (2 - 1, 509)$$

$$= \sqrt{1 \times 3.86}$$

$$= \sqrt{3.86}$$

$\therefore S = 1.965$

Step 3: Calculate the difference between means ($\hat{\psi}$)

$$\hat{\psi} = \bar{Y}_{i11} - \bar{Y}_{i12}.$$
Step 4: Compute the simultaneous confidence interval values using the formula

\[ \hat{\Psi} - S\hat{\sigma}_\Psi \leq \Psi \leq \hat{\Psi} + S\hat{\sigma}_\Psi \]

\[ = (-4.444) - 1.965 \times 0.850 \leq \Psi \leq (-4.444) + 1.965 \times 0.850 \]

\[ = (-4.444) - 1.670 \leq \Psi \leq (-4.444) + 1.670 \]

\[ = -6.114 \leq \Psi \leq -2.774 \]

Step 5: Determine the significance of difference between the means

As the simultaneous confidence interval values are in the same direction, i.e., -6.114 and -2.774, the difference is significant.

Hence, the mean of the treatment groups \( b_1c_1 \) (11.801) and \( b_1c_2 \) (16.245) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two Means clearly indicates that the Mean of the treatment groups \( b_1c_2 \) is greater than the mean of treatment group \( b_1c_1 \). This further implies that the Extrovert physical education teachers coming from homes of Unhappy home
climate are more prone to burnout on Emotional Exhaustion than the Extrovert physical education teachers coming from homes of Happy climates.

The same procedure was carried out for computing Scheffe's simultaneous confidence intervals for the all other possible comparisons of treatment groups. These values are presented in the table 4.7.

Table 4.7:  Comparison of Means of Treatment Groups on Emotional Exhaustion – Scheffe’s Simultaneous Confidence Intervals

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Comparison of Treatment Groups</th>
<th>Corresponding Means</th>
<th>Simultaneous Confidence Intervals</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>$b_1c_1 &amp; b_1c_2$</td>
<td>11.801 &amp; 16.245</td>
<td>-6.114 &amp; -2.774</td>
<td>S</td>
</tr>
<tr>
<td>2.</td>
<td>$b_1c_1 &amp; b_2c_1$</td>
<td>11.801 &amp; 15.623</td>
<td>-4.567 &amp; -3.077</td>
<td>S</td>
</tr>
<tr>
<td>3.</td>
<td>$b_1c_1 &amp; b_2c_2$</td>
<td>11.801 &amp; 16.796</td>
<td>-6.923 &amp; -3.067</td>
<td>S</td>
</tr>
<tr>
<td>4.</td>
<td>$b_1c_2 &amp; b_2c_1$</td>
<td>16.245 &amp; 15.623</td>
<td>-.502 &amp; +1.746</td>
<td>NS</td>
</tr>
<tr>
<td>5.</td>
<td>$b_1c_2 &amp; b_2c_2$</td>
<td>16.245 &amp; 16.796</td>
<td>-2.597 &amp; +1.495</td>
<td>NS</td>
</tr>
<tr>
<td>6.</td>
<td>$b_2c_1 &amp; b_2c_2$</td>
<td>15.623 &amp; 16.796</td>
<td>-3.584 &amp; +1.238</td>
<td>NS</td>
</tr>
</tbody>
</table>

NS = Not Significant  S = Significant
Note: Higher mean scores on Emotional Exhaustion correspond to higher degrees of experienced burnout.9
The above table reveals the following:

1) As the simultaneous confidence interval values of Sl. No. 1, are in the same direction i.e., -6.114 and -2.774, the difference is significant.

   Hence, the mean of the treatment groups b1c1 (11.801) and b1c2 (16.245) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

   However, the observation of the two means clearly indicates that, the mean of the treatment group b1c2 is greater than the mean of treatment group b1c1. This further implies that the Extrovert physical education teachers coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than the Extrovert physical education teachers coming from homes of Happy climates.

2) As the simultaneous confidence interval values of Sl. No. 2, are in the same direction i.e., -4.567 and -3.077, the difference is significant.
Hence, the mean of the treatment groups $b_{1c_1}$ (11.801) and $b_{2c_1}$ (15.623) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two means clearly indicates that, the mean of the treatment group $b_{2c_1}$ is greater than the mean of the treatment group $b_{1c_1}$. This further implies that the Introvert physical education teachers coming from homes of Happy climate are more prone to burnout on Emotional Exhaustion than the Extrovert physical education teachers coming from homes of Happy climate.

3) As the simultaneous confidence interval values of Sl. No. 3, are in the same direction i.e., -6.923 and -3.067, the difference is significant.

Hence, the mean of the treatment groups $b_{1c_1}$ (11.801) and $b_{2c_2}$ (16.796) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two means clearly indicates that, the mean of the treatment group $b_{2c_2}$ is greater than the mean of treatment group $b_{1c_1}$. This further implies that the Introvert
physical education teachers coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than the Extrovert physical education teachers coming from homes of Happy climate.

4) As the simultaneous confidence interval values of Sl. No. 4, are not in the same direction i.e., -0.502 and +1.746, the difference is not significant.

Hence, the mean of the treatment groups $b_{1c_2}$ (16.245) and $b_{2c_1}$ (15.623) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that, Introvert physical education teachers coming from homes of Happy climate, and the Extrovert physical education teachers coming from homes of Unhappy climates do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

5) As the simultaneous confidence interval values of Sl. No. 5, are not in the same direction i.e., -2.597 and +1.495, the difference is not significant.
Hence, the mean of the treatment groups $b_{1c2}$ (16.245) and $b_{2c2}$ (16.796) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that, Extrovert physical education teachers coming from homes of Unhappy climate, and the Introvert physical education teachers coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

6) As the simultaneous confidence interval values of Sl. No. 6, are not in the same direction i.e., -3.584 and +1.238, the difference is not significant.

Hence, the mean of the treatment groups $b_{2c1}$ (15.623) and $b_{2c2}$ (16.796) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that, Introvert physical education teachers coming from homes of Happy climate, and the Introvert physical education teachers coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.
6. Physical education teachers working in schools with open/closed climate, and coming from homes of Happy/Unhappy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

7. Extrovert/Introvert physical education teachers working in schools with open/closed climate and coming from homes of Happy/Unhappy climate differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

Table 4.8: Treatment Groups, Means and Corresponding n's with respect to Emotional Exhaustion.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Treatment Groups</th>
<th>Means</th>
<th>n's</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>a&lt;sub&gt;1&lt;/sub&gt; b&lt;sub&gt;1&lt;/sub&gt; c&lt;sub&gt;1&lt;/sub&gt;</td>
<td>12.430 Y&lt;sub&gt;111&lt;/sub&gt;.</td>
<td>n&lt;sub&gt;111&lt;/sub&gt; = 114</td>
</tr>
<tr>
<td>2.</td>
<td>a&lt;sub&gt;1&lt;/sub&gt; b&lt;sub&gt;1&lt;/sub&gt; c&lt;sub&gt;2&lt;/sub&gt;</td>
<td>14.208 Y&lt;sub&gt;112&lt;/sub&gt;.</td>
<td>n&lt;sub&gt;112&lt;/sub&gt; = 53</td>
</tr>
<tr>
<td>3.</td>
<td>a&lt;sub&gt;1&lt;/sub&gt; b&lt;sub&gt;2&lt;/sub&gt; c&lt;sub&gt;1&lt;/sub&gt;</td>
<td>13.774 Y&lt;sub&gt;121&lt;/sub&gt;.</td>
<td>n&lt;sub&gt;121&lt;/sub&gt; = 31</td>
</tr>
<tr>
<td>4.</td>
<td>a&lt;sub&gt;1&lt;/sub&gt; b&lt;sub&gt;2&lt;/sub&gt; c&lt;sub&gt;2&lt;/sub&gt;</td>
<td>14.88 Y&lt;sub&gt;122&lt;/sub&gt;.</td>
<td>n&lt;sub&gt;122&lt;/sub&gt; = 25</td>
</tr>
<tr>
<td>5.</td>
<td>a&lt;sub&gt;2&lt;/sub&gt; b&lt;sub&gt;1&lt;/sub&gt; c&lt;sub&gt;1&lt;/sub&gt;</td>
<td>11.098 Y&lt;sub&gt;211&lt;/sub&gt;.</td>
<td>n&lt;sub&gt;211&lt;/sub&gt; = 102</td>
</tr>
<tr>
<td>6.</td>
<td>a&lt;sub&gt;2&lt;/sub&gt; b&lt;sub&gt;1&lt;/sub&gt; c&lt;sub&gt;2&lt;/sub&gt;</td>
<td>17.5 Y&lt;sub&gt;212&lt;/sub&gt;.</td>
<td>n&lt;sub&gt;212&lt;/sub&gt; = 86</td>
</tr>
<tr>
<td>7.</td>
<td>a&lt;sub&gt;2&lt;/sub&gt; b&lt;sub&gt;2&lt;/sub&gt; c&lt;sub&gt;1&lt;/sub&gt;</td>
<td>17.132 Y&lt;sub&gt;221&lt;/sub&gt;.</td>
<td>n&lt;sub&gt;221&lt;/sub&gt; = 38</td>
</tr>
<tr>
<td>8.</td>
<td>a&lt;sub&gt;2&lt;/sub&gt; b&lt;sub&gt;2&lt;/sub&gt; c&lt;sub&gt;2&lt;/sub&gt;</td>
<td>17.5 Y&lt;sub&gt;222&lt;/sub&gt;.</td>
<td>n&lt;sub&gt;222&lt;/sub&gt; = 68</td>
</tr>
</tbody>
</table>
Vide table 4.8 there are 8 treatment groups of physical education teachers. The obtained F-ratio (26.727) with reference to finding 7 indicates that, the treatment groups differ significantly. However, it is not clear from the above finding that which of the comparisons of the treatment groups differ significantly in terms of their proneness to burnout on Emotional Exhaustion. Hence, to know this comparison of Means of all the treatment groups is carried out following the procedure already stated in the early part of this section. The simultaneous confidence interval values are presented in the table 4.9.
Table 4.9: Comparison of Means of Treatment Groups on Emotional Exhaustion – Scheffe’s Simultaneous Confidence Intervals

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Comparison of Treatment Groups</th>
<th>Corresponding Means</th>
<th>Simultaneous Confidence Intervals</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>$a_1b_1c_1$ &amp; $a_1b_1c_2$</td>
<td>12.430 &amp; 14.208</td>
<td>-4.329 &amp; +0.775</td>
<td>NS</td>
</tr>
<tr>
<td>2.</td>
<td>$a_1b_1c_1$ &amp; $a_1b_2c_1$</td>
<td>12.430 &amp; 13.774</td>
<td>-4.421 &amp; +1.753</td>
<td>NS</td>
</tr>
<tr>
<td>3.</td>
<td>$a_1b_1c_1$ &amp; $a_1b_2c_2$</td>
<td>12.430 &amp; 14.88</td>
<td>-5.826 &amp; +0.926</td>
<td>NS</td>
</tr>
<tr>
<td>4.</td>
<td>$a_1b_1c_1$ &amp; $a_2b_1c_1$</td>
<td>12.430 &amp; 11.098</td>
<td>-0.771 &amp; +3.435</td>
<td>NS</td>
</tr>
<tr>
<td>5.</td>
<td>$a_1b_1c_1$ &amp; $a_2b_1c_2$</td>
<td>12.430 &amp; 17.5</td>
<td>-7.279 &amp; -2.861</td>
<td>S</td>
</tr>
<tr>
<td>6.</td>
<td>$a_1b_1c_1$ &amp; $a_2b_2c_1$</td>
<td>12.430 &amp; 17.132</td>
<td>-7.555 &amp; -1.849</td>
<td>S</td>
</tr>
<tr>
<td>7.</td>
<td>$a_1b_1c_1$ &amp; $a_2b_2c_2$</td>
<td>12.430 &amp; 17.5</td>
<td>-7.432 &amp; -2.708</td>
<td>S</td>
</tr>
<tr>
<td>8.</td>
<td>$a_1b_1c_2$ &amp; $a_1b_1c_1$</td>
<td>14.208 &amp; 13.774</td>
<td>-3.009 &amp; +3.877</td>
<td>NS</td>
</tr>
<tr>
<td>9.</td>
<td>$a_1b_1c_2$ &amp; $a_1b_2c_1$</td>
<td>14.208 &amp; 14.88</td>
<td>-4.376 &amp; +3.032</td>
<td>NS</td>
</tr>
<tr>
<td>10.</td>
<td>$a_1b_1c_2$ &amp; $a_2b_1c_1$</td>
<td>14.208 &amp; 11.098</td>
<td>+0.514 &amp; +5.706</td>
<td>S</td>
</tr>
<tr>
<td>11.</td>
<td>$a_1b_1c_2$ &amp; $a_2b_1c_2$</td>
<td>14.208 &amp; 17.5</td>
<td>-5.976 &amp; -0.608</td>
<td>S</td>
</tr>
<tr>
<td>12.</td>
<td>$a_1b_1c_2$ &amp; $a_2b_2c_1$</td>
<td>14.208 &amp; 17.132</td>
<td>-6.158 &amp; +0.31</td>
<td>NS</td>
</tr>
<tr>
<td>13.</td>
<td>$a_1b_1c_2$ &amp; $a_2b_2c_2$</td>
<td>14.208 &amp; 17.5</td>
<td>-6.063 &amp; -0.521</td>
<td>S</td>
</tr>
<tr>
<td>14.</td>
<td>$a_1b_2c_1$ &amp; $a_2b_1c_1$</td>
<td>13.774 &amp; 14.88</td>
<td>-5.197 &amp; +2.985</td>
<td>NS</td>
</tr>
<tr>
<td>15.</td>
<td>$a_1b_2c_1$ &amp; $a_2b_1c_2$</td>
<td>13.774 &amp; 11.098</td>
<td>-.448 &amp; +5.8</td>
<td>NS</td>
</tr>
<tr>
<td>16.</td>
<td>$a_1b_2c_1$ &amp; $a_2b_2c_1$</td>
<td>13.774 &amp; 17.5</td>
<td>-6.925 &amp; -0.527</td>
<td>S</td>
</tr>
<tr>
<td>17.</td>
<td>$a_1b_2c_1$ &amp; $a_2b_2c_1$</td>
<td>13.774 &amp; 17.132</td>
<td>-7.03 &amp; +0.314</td>
<td>NS</td>
</tr>
<tr>
<td>18.</td>
<td>$a_1b_2c_1$ &amp; $a_3b_2c_2$</td>
<td>13.774 &amp; 17.5</td>
<td>-7.031 &amp; -0.421</td>
<td>S</td>
</tr>
<tr>
<td>19.</td>
<td>$a_1b_2c_2$ &amp; $a_2b_1c_1$</td>
<td>14.88 &amp; 11.098</td>
<td>+0.373 &amp; +7.191</td>
<td>S</td>
</tr>
<tr>
<td>20.</td>
<td>$a_1b_2c_2$ &amp; $a_2b_1c_2$</td>
<td>14.88 &amp; 17.5</td>
<td>-6.096 &amp; +0.856</td>
<td>NS</td>
</tr>
<tr>
<td>21.</td>
<td>$a_1b_2c_2$ &amp; $a_2b_2c_1$</td>
<td>14.88 &amp; 17.132</td>
<td>-6.436 &amp; +1.396</td>
<td>NS</td>
</tr>
<tr>
<td>22.</td>
<td>$a_1b_2c_2$ &amp; $a_2b_2c_2$</td>
<td>14.88 &amp; 17.5</td>
<td>-6.196 &amp; +0.956</td>
<td>NS</td>
</tr>
<tr>
<td>23.</td>
<td>$a_2b_1c_1$ &amp; $a_2b_1c_2$</td>
<td>11.098 &amp; 17.5</td>
<td>-8.664 &amp; -4.140</td>
<td>S</td>
</tr>
<tr>
<td>24.</td>
<td>$a_2b_1c_1$ &amp; $a_2b_2c_2$</td>
<td>11.098 &amp; 17.132</td>
<td>-8.926 &amp; -3.142</td>
<td>S</td>
</tr>
<tr>
<td>25.</td>
<td>$a_2b_1c_1$ &amp; $a_2b_2c_1$</td>
<td>11.098 &amp; 17.5</td>
<td>-8.813 &amp; -3.991</td>
<td>S</td>
</tr>
<tr>
<td>26.</td>
<td>$a_2b_1c_2$ &amp; $a_2b_2c_1$</td>
<td>17.5 &amp; 17.132</td>
<td>-2.605 &amp; +3.341</td>
<td>NS</td>
</tr>
<tr>
<td>27.</td>
<td>$a_2b_1c_2$ &amp; $a_2b_2c_2$</td>
<td>17.5 &amp; 17.5</td>
<td>-2.505 &amp; +2.505</td>
<td>NS</td>
</tr>
<tr>
<td>28.</td>
<td>$a_2b_2c_1$ &amp; $a_2b_2c_2$</td>
<td>17.132 &amp; 17.5</td>
<td>-3.455 &amp; +2.719</td>
<td>NS</td>
</tr>
</tbody>
</table>

NS  = Not Significant
S  = Significant

Note: Higher mean scores on Emotional Exhaustion correspond to higher degrees of experienced burnout.10
The above table reveals the following:

1. As the simultaneous confidence interval values of Sl. No. 1, are not in the same direction i.e., -4.329 and +0.775, the difference is not significant.

   Hence, the mean of the treatment groups $a_1b_1c_1$ (12.430) and $a_1b_1c_2$ (14.208) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

   This further implies that the Extrovert physical education teachers working in schools with open climate, coming from homes of Happy climate and Extrovert physical education teachers working in schools with open climate coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

2. As the simultaneous confidence interval values of Sl. No. 2, are not in the same direction i.e., -4.421 and +1.753, the difference is not significant.

   Hence, the mean of the treatment groups $a_1b_1c_1$ (12.430) and $a_1b_2c_1$ (13.774) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.
This further implies that the Extrovert physical education teachers working in schools with open climate, coming from homes of Happy climate and Introvert physical education teachers working in schools with open climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

3. As the simultaneous confidence interval values of Sl. No. 3, are not in the same direction i.e., -5.826 and +0.926, the difference is not significant.

Hence, the mean of the treatment groups $a_1b_1c_1$ (12.430) and $a_1b_2c_2$ (14.88) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that the Extrovert physical education teachers working in schools with open climate coming from homes of Happy climate and Introvert physical education teachers working in schools with open climate coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.
4. As the simultaneous confidence interval values of Sl. No. 4, are not in the same direction i.e., -0.771 and +3.435, the difference is not significant.

Hence, the mean of the treatment groups $a_1b_1c_1$ (12.430) and $a_2b_1c_1$ (11.098) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that the Extrovert physical education teachers working in schools with open climate coming from homes of Happy climate and Extrovert physical education teachers working in schools with closed climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

5. As the simultaneous confidence interval values of Sl. No. 5, are in the same direction i.e., -7.279 and -2.861, the difference is significant.

Hence, the mean of the treatment groups $a_1b_1c_1$ (12.430) and $a_2b_1c_2$ (17.5) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.
However, the observation of the two means clearly indicates that, the mean of the treatment groups \( a_1b_1c_1 \) is lesser than the mean of the treatment group \( a_2b_1c_2 \). This further implies that the Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than the Extrovert physical education teachers working in schools with open climate coming from homes of Happy climate.

6. As the simultaneous confidence interval values of Sl. No. 6, are in the same direction i.e., \(-7.555\) and \(-1.849\), the difference is significant.

Hence, the mean of the treatment groups \( a_1b_1c_1 \) (12.430) and \( a_2b_2c_1 \) (17.132) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two means clearly indicates that, the mean of the treatment group \( a_2b_2c_1 \) is greater than the mean of the treatment group \( a_1b_1c_1 \). This further implies that Introvert physical education teachers working in schools with closed climate coming from homes of Happy climate are more prone to burnout on Emotional Exhaustion than, the Extrovert physical education
teachers working in schools with open climate coming from homes of Happy climate.

7. As the simultaneous confidence interval values of Sl. No. 7, are in the same direction i.e., -7.432 and -2.708, the difference is significant.

   Hence, the mean of the treatment groups $a_1b_1c_1$ (12.430) and $a_2b_2c_2$ (17.5) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

   However, the observation of the two means clearly indicates that, the mean of the treatment group $a_2b_2c_2$ is greater than the mean of the treatment group $a_1b_1c_1$. This further implies that Introvert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than the Extrovert physical education teachers working in schools with open climate coming from homes of Happy climate.

8. As the simultaneous confidence interval values of Sl. No. 8, are not in the same direction i.e., -3.009 and +3.877, the difference is not significant.
Hence, the mean of the treatment groups $a_1b_1c_2$ (14.208) and $a_1b_2c_1$ (13.774) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that the Extrovert physical education teachers working in schools with open climate coming from homes of Unhappy climate and Introvert physical education teachers working in schools with open climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

9. As the simultaneous confidence interval values of Sl. No. 9, are not in the same direction i.e., -4.376 and +3.032, the difference is not significant.

Hence, the mean of the treatment groups $a_1b_1c_2$ (14.208) and $a_1b_2c_2$ (14.88) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that the Extrovert physical education teachers working in schools with open climate coming from homes of Unhappy climate and Introvert physical education teachers working in schools with open climate coming from homes of
Unhappy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

10. As the simultaneous confidence interval values of Sl. No. 10, are in the same direction i.e., +0.514 and +5.706, the difference is significant.

Hence, the mean of the treatment groups a₁b₁c₂ (14.208) and a₂b₁c₁ (11.098) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two means clearly indicates that the mean of the treatment group a₁b₁c₂ is greater than the mean of the treatment group a₂b₁c₁. This further implies that the Extrovert physical education teachers working in schools with open climate coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than the Extrovert physical education teachers working in schools with closed climate coming from homes of Happy climate.

11. As the simultaneous confidence interval values of Sl. No. 11, are in the same direction i.e., -5.976 and -0.608, the difference is significant.
Hence, the mean of the treatment groups $a_1 b_1 c_2$ (14.208) and $a_2 b_1 c_2$ (17.5) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two means clearly indicates that the mean of the treatment group $a_2 b_1 c_2$ is greater than the mean of the treatment group $a_1 b_1 c_2$. This further implies that the Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than the Extrovert physical education teachers working in schools with open climate coming from homes of Unhappy climate.

12. As the simultaneous confidence interval values of Sl. No. 12, are not in the same direction i.e., -6.158 and +0.31, the difference is not significant.

Hence, the mean of the treatment groups $a_1 b_1 c_2$ (14.208) and $a_2 b_2 c_1$ (17.132) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that the Extrovert physical education teachers working in schools with open climate coming from homes
of Unhappy climate and Introvert physical education teachers working in schools with closed climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

13. As the simultaneous confidence interval values of Sl. No. 13, are in the same direction i.e., -6.063 and -0.521, the difference is significant.

Hence, the mean of the treatment groups $a_1b_1c_2$ (14.208) and $a_2b_1c_2$ (17.5) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two means clearly indicates that the mean of the treatment groups $a_2b_2c_2$ is greater than the mean of the treatment group $a_1b_1c_2$. This further implies that the Introvert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than the Extrovert physical education teachers working in schools with open climate coming from homes of Unhappy climate.
14. As the simultaneous confidence interval values of Sl. No. 14, are not in the same direction i.e., -5.197 and +2.985, the difference is not significant.

Hence, the mean of the treatment groups \(a_1b_2c_1\) (13.774) and \(a_1b_2c_2\) (14.88) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Happy climate and Introvert physical education teachers working in schools with open climate coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

15. As the simultaneous confidence interval values of Sl. No. 15, are not in the same direction i.e., -.488 and +5.8, the difference is not significant.

Hence, the mean of the treatment groups \(a_1b_2c_1\) (13.774) and \(a_2b_1c_1\) (11.098) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.
This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Happy climate and Extrovert physical education teachers working in schools with closed climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

16. As the simultaneous confidence interval values of Sl. No. 16, are in the same direction i.e., -6.925 and -0.527, the difference is significant.

Hence, the mean of the treatment groups $a_1b_2c_1$ (13.774) and $a_2b_1c_2$ (17.5) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two means clearly indicates that the mean of the treatment group $a_2b_1c_2$ is greater than the mean of the treatment group $a_1b_2c_1$. This further implies that the Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than the Introvert physical education
This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Happy climate and Extrovert physical education teachers working in schools with closed climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

16. As the simultaneous confidence interval values of Sl. No. 16, are in the same direction i.e., -6.925 and -0.527, the difference is significant.

Hence, the mean of the treatment groups \(a_1b_2c_1\) (13.774) and \(a_2b_1c_2\) (17.5) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two means clearly indicates that the mean of the treatment group \(a_2b_1c_2\) is greater than the mean of the treatment group \(a_1b_2c_1\). This further implies that the Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than the Introvert physical education
teachers working in schools with open climate coming from homes of Happy climate.

17. As the simultaneous confidence interval values of Sl. No. 17, are not in the same direction i.e., -7.03 and +0.314, the difference is not significant.

Hence, the mean of the treatment groups $a_1b_2c_1$ (13.774) and $a_2b_2c_1$ (17.132) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Happy climate and Introvert physical education teachers working in schools with closed climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

18. As the simultaneous confidence interval values of Sl. No. 18, are in the same direction i.e., -7.031 and -0.421, the difference is significant.
Hence, the mean of the treatment groups $a_1b_2c_1$ (13.774) and $a_2b_2c_2$ (17.5) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two means clearly indicates that the mean of the treatment group $a_2b_2c_2$ is greater than the mean of the treatment group $a_1b_2c_2$. This further implies that the Introvert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than the Introvert physical education teachers working in schools with open climate coming from homes of Happy climate.

19. As the simultaneous confidence interval values of Sl. No. 19, are in the same direction i.e., $+0.373$ and $+7.191$, the difference is significant.

Hence, the mean of the treatment groups $a_1b_2c_2$ (14.88) and $a_2b_1c_1$ (11.098) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two means clearly indicates that the mean of the treatment groups $a_1b_2c_2$ is greater than the mean
of the treatment group \(a_2b_1c_1\). This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than the Extrovert physical education teachers working in schools with closed climate coming from homes of Happy climate.

20. As the simultaneous confidence interval values of Sl. No. 20, are not in the same direction i.e., -6.096 and +0.856, the difference is not significant.

Hence, the mean of the treatment groups \(a_1b_2c_2\) (14.88) and \(a_2b_1c_2\) (17.5) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Unhappy climate and Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.
21. As the simultaneous confidence interval values of Sl. No. 21, are not in the same direction i.e., -6.436 and +1.396, the difference is not significant.

Hence, the mean of the treatment groups a₁b₂c₂ (14.88) and a₂b₂c₁ (17.132) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Unhappy climate and Introvert physical education teachers working in schools with closed climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

22. As the simultaneous confidence interval values of Sl. No. 22, are not in the same direction i.e., -6.196 and +0.956, the difference is not significant.

Hence, the mean of the treatment groups a₁b₂c₂ (14.88) and a₂b₂c₂ (17.5) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.
This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Unhappy climate and Introvert physical education teachers working in schools with closed climate coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

23. As the simultaneous confidence interval values of Sl. No. 23, are in the same direction i.e., -8.664 and -4.140, the difference is significant.

Hence, the mean of the treatment groups $a_{2b1c1}$ (11.098) and $a_{2b1c2}$ (17.5) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two means clearly indicates that the mean of the treatment group $a_{2b1c2}$ is greater than the mean of the treatment group $a_{2b1c1}$. This further implies that, the Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than the Extrovert
physical education teachers working in schools with closed climate coming from homes of Happy climate.

24. As the simultaneous confidence interval values of Sl. No. 24, are in the same direction i.e., -8.926 and -3.142, the difference is significant.

Hence, the mean of the treatment groups $a_2b_1c_1$ (11.098) and $a_2b_2c_1$ (17.132) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two means clearly indicates that the mean of the treatment group $a_2b_2c_1$ is greater than the mean of the treatment group $a_2b_1c_1$. This further implies that, the Introvert physical education teachers working in schools with closed climate coming from homes of Happy climate are more prone to burnout on Emotional Exhaustion than the Extrovert physical education teachers working in schools with closed climate coming from homes of Happy climate.

25. As the simultaneous confidence interval values of Sl. No. 25, are in the same direction i.e., -8.813 and -3.991, the difference is significant.
Hence, the mean of the treatment groups $a_2b_1c_1$ (11.098) and $a_2b_2c_2$ (17.5) differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

However, the observation of the two means clearly indicates that the mean of the treatment groups $a_2b_2c_2$ is greater than the mean of the treatment group $a_2b_1c_1$. This further implies that, the Introvert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Emotional Exhaustion than the Extrovert physical education teachers working in schools with closed climate coming from homes of Happy climate.

26. As the simultaneous confidence interval values of Sl. No. 26, are not in the same direction i.e., -2.605 and +3.341, the difference is not significant.

Hence, the mean of the treatment groups $a_2b_1c_2$ (17.5) and $a_2b_2c_1$ (17.132) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that the Extrovert physical education teachers working in schools with closed climate coming from homes
of Unhappy climate and Introvert physical education teachers working in schools with closed climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

27. As the simultaneous confidence interval values of Sl. No. 27, are not in the same direction i.e., -2.505 and +2.505, the difference is not significant.

Hence, the mean of the treatment groups $a_2b_1c_2$ (17.5) and $a_2b_2c_2$ (17.5) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that the Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate and Introvert physical education teachers working in schools with closed climate coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

28. As the simultaneous confidence interval values of Sl. No. 28, are not in the same direction i.e., -3.455 and +2.719, the difference is not significant.
Hence, the mean of the treatment groups $a_2b_2c_1$ (17.132) and $a_2b_2c_2$ (17.5) do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

This further implies that the Introvert physical education teachers working in schools with closed climate coming from homes of Happy climate and Introvert physical education teachers working in schools with closed climate coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Emotional Exhaustion.

4.8. Conclusion

The findings presented above indicate that the school climate, personality and home climate of physical education teachers shows significant main effect on Emotional Exhaustion dimensions of burnout, with the home climate having marginally higher contribution.

Two of the three 2-way interaction effects seen to be not significant where the school climates and the home climate are involved. However, the $B \times C$ interaction seen to be significant. The 3-way interaction effects is significant. However, the school climate
and home climate jointly affect the particular personality type with regard to their proneness on burnout among physical education teachers.

Thus the Introvert physical education teachers show a higher proneness to Emotional Exhaustion dimension of burnout than the Extroverts. It is clear from above analysis that, home climate is fairly an important factor that causes Emotional Exhaustion dimension of burnout among physical education teachers.
SECTION - 3

ANALYSIS OF DATA PERTAINING TO
DEPERSONALIZATION - A DIMENSION OF BURNOUT

In pursuance of the objectives 8 to 14 stated in Chapter III, the following research hypotheses and the corresponding null hypotheses were set-up:

RESEARCH HYPOTHESES

RH₁ Effects of open and closed school climates differ significantly in terms of proneness to burnout of physical education teachers on Depersonalization.

RH₂ Effects of Extraversion and Introversion Personality Types differ significantly in terms of proneness to burnout of physical education teachers on Depersonalization.

RH₃ Effects of Happy and Unhappy Home Climates differ significantly in terms of proneness to burnout of physical education teachers on Depersonalization.

RH₄ Interaction effect of School Climates X Personality Types differ significantly in terms of proneness to burnout of physical education teachers on Depersonalization.
RH₅ Interaction effect of Personality Types X Home climates differ significantly in terms of proneness to burnout of physical education teachers on Depersonalization.

RH₆ Interaction effect of School Climates X Home Climates differ significantly in terms of proneness to burnout of physical education teachers on Depersonalization.

RH₇ Interaction effect of School Climates X Personality Types X Home Climates differ significantly in terms of proneness to burnout of physical education teachers on Depersonalization.

NULL HYPOTHESES

H₀₁ There is no significant difference between the effects of open and closed school climates in terms of proneness to burnout of physical education teachers on Depersonalization.

H₀₂ There is no significant difference between the effects of Extraversion and Introversion personality types in terms of proneness to burnout of physical education teachers on Depersonalization.

H₀₃ There is no significant difference between the effects of Happy and Unhappy Home Climates in terms of proneness to burnout of physical education teachers on Depersonalization.
HO4 There is no significant difference between the interaction effect of School Climates X Personality Types in terms of proneness to burnout of physical education teachers on Depersonalization.

HO5 There is no significant difference between the interaction effect of Personality Types X Home Climates in terms of proneness to burnout of physical education teachers on Depersonalization.

HO6 There is no significant difference between the interaction effect of School Climates X Home Climates in terms of proneness to burnout of physical education teachers on Depersonalization.

HO7 There is no significant difference between the interaction effect School Climates X Personality Types X Home Climates in terms of proneness to burnout of physical education teachers on Depersonalization.

To test the above stated null hypotheses, the same 3-way Analysis of Variance technique was used.

The steps of 3-way ANOVA followed in the previous section are also followed here in order to analyse the data on Depersonalization - a dimension of burnout (vide Appendix -
K and L for the respective scores and computational values). The F-ratios thus calculated are presented in the following summary table:

Table 4.10: Summary Table of Anova with respect to Depersonalization – A Dimension of Burnout

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F-ratio</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>N.S</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>119.857</td>
<td>119.857</td>
<td>4.643</td>
<td>S</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>743.2</td>
<td>743.2</td>
<td>28.783</td>
<td>S</td>
</tr>
<tr>
<td><strong>2-Way Interactions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A X B</td>
<td>1</td>
<td>0.190</td>
<td>0.190</td>
<td>0.007</td>
<td>NS</td>
</tr>
<tr>
<td>B X C</td>
<td>1</td>
<td>22.497</td>
<td>22.497</td>
<td>0.872</td>
<td>NS</td>
</tr>
<tr>
<td>A X C</td>
<td>1</td>
<td>176.982</td>
<td>176.982</td>
<td>6.857</td>
<td>S</td>
</tr>
<tr>
<td><strong>3-way Interaction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A X B X C</td>
<td>1</td>
<td>768.678</td>
<td>768.678</td>
<td>29.780</td>
<td>S</td>
</tr>
<tr>
<td>Error</td>
<td>509</td>
<td>13138.399</td>
<td>25.812</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>516</td>
<td>14969.803</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NS: Not Significant  
S: Significant

Table F - 3.86 df.0.05
Interpretation of F-Ratios

1. The obtained F-ratio in respect of the Factor-A is 0 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is lesser than the tabled F-ratio at 0.05 level, the difference is not significant. Therefore, the null hypotheses (H₀₁) is accepted.

2. The obtained F-ratio in respect of the Factor-B is 4.643 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the null hypotheses (H₀₂) is rejected.

3. The obtained F-ratio in respect of the Factor-C is 28.783 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the null hypotheses (H₀₃) is rejected.

4. The obtained F-ratio in respect of interaction between the Factors A and B is 0.007 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is lesser than the tabled
F-ratio at 0.05 level, the difference is not significant. Therefore, the null hypotheses (Ho₄) is accepted.

5. The obtained F-ratio in respect of the interaction between Factors B and C is 0.872 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is lesser than the tabled F-ratio at 0.05 level, the difference is not significant. Therefore, the null hypotheses (Ho₅) is accepted.

6. The obtained F-ratio in respect of the interaction between Factors A and C is 6.857 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the null hypotheses (Ho₆) is rejected.

7. The obtained F-ratio in respect of the interaction between Factors A, B and C is 29.780 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the null hypotheses (Ho₇) is rejected.
4.9. Findings - Depersonalization

On the basis of the above analysis, among the null hypotheses, $H_01$, $H_02$, $H_03$, $H_04$, $H_05$, and $H_07$, only $H_01$, $H_04$, and $H_05$, are accepted and the remaining $H_02$, $H_03$, $H_06$, and $H_07$ are rejected, thereby $H_01$, $H_04$, and $H_05$ are accepted and the remaining $H_02$, $H_03$, $H_06$, and $H_07$ are rejected. This implies that:

1. There is no significant difference between the effects of open and closed school climates in terms of proneness to burnout of physical education teachers on Depersonalization.

2. There is a significant difference between the effects of Extrovert and Introvert Personality types in terms of proneness to burnout of physical education teachers on Depersonalization.

However, the means of Depersonalization scores of Extrovert and Introvert Physical Education teachers are 5.977 and 7.071 respectively. From this it is evident that, Introvert Physical Education teachers have a greater mean than those of extroverts. Hence, it can be concluded that Introvert physical education
teachers are more prone to burnout on Depersonalization than their counterparts.

It has been observed that higher mean scores on depersonalization subscale correspond to higher degrees of experienced burnout.\textsuperscript{11}

3. There is a significant difference between the effects of Happy and Unhappy Home Climates in terms of proneness to burnout of physical education teachers on Depersonalization.

However, the means of Depersonalization scores of Physical education teachers coming from Homes of Happy and Unhappy climates are 5.161 and 7.887 respectively. From this it is evident that, Physical Education teachers coming from Homes of Unhappy Climate have a greater mean than those of coming from homes of Happy climate. Hence, it can be concluded that physical education teachers coming from Homes of Unhappy Climates are more prone to burnout on Depersonalization than their counterparts coming from homes of Happy Climate.
4. Extrovert/Introvert Physical Education teachers working in schools with open/closed climate do not differ significantly in terms of their proneness to burnout on Depersonalization.

5. Extrovert/Introvert physical education teachers coming from homes of Happy/Unhappy climate do not differ significantly in terms of their proneness to burnout on Depersonalization.

6. Physical education teachers working in schools with open/closed climate and coming from homes of Happy/Unhappy climate differ significantly in terms of their proneness to burnout on Depersonalization.

Table 4.11: Treatment Groups, Means and Corresponding n’s with respect to Depersonalization

<table>
<thead>
<tr>
<th>Treatment Groups</th>
<th>Means</th>
<th>n’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>$a_1 c_1$</td>
<td>$\bar{Y}_{1.1}$</td>
<td>145 $n_{11}$</td>
</tr>
<tr>
<td>$a_1 c_2$</td>
<td>$\bar{Y}_{1.2}$</td>
<td>78 $n_{12}$</td>
</tr>
<tr>
<td>$a_2 c_1$</td>
<td>$\bar{Y}_{2.1}$</td>
<td>140 $n_{21}$</td>
</tr>
<tr>
<td>$a_2 c_2$</td>
<td>$\bar{Y}_{2.2}$</td>
<td>154 $n_{22}$</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>517</td>
</tr>
</tbody>
</table>
Vide Table 4.11, there are 4 treatment groups of physical education teachers. The obtained F-ratio (6.857) with reference to finding 6 indicates that the treatment group differ significantly. However, it is not clear from the above finding that which of the comparisons of the treatment groups differ significantly in terms of their proneness to burnout on Depersonalization.

Hence, to know this, comparison of means of all the treatment groups was carried out following the same procedure already stated in the earlier part of the Section-2. The simultaneous confidence interval values are presented in Table 4.12.

**Table 4.12: Comparison of Means of Treatment Group on Depersonalization Scheffe’s Simultaneous Confidence Intervals**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Comparison of Treatment Groups</th>
<th>Corresponding Means</th>
<th>Simultaneous Confidence Intervals</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a&lt;sub&gt;1&lt;/sub&gt; c&lt;sub&gt;1&lt;/sub&gt; &amp; a&lt;sub&gt;1&lt;/sub&gt; c&lt;sub&gt;2&lt;/sub&gt;</td>
<td>5.566 &amp; 7.00</td>
<td>-2.845 &amp; -0.023</td>
<td>S</td>
</tr>
<tr>
<td>2</td>
<td>a&lt;sub&gt;1&lt;/sub&gt; c&lt;sub&gt;1&lt;/sub&gt; &amp; a&lt;sub&gt;2&lt;/sub&gt; c&lt;sub&gt;1&lt;/sub&gt;</td>
<td>5.566 &amp; 3.986</td>
<td>+0.399 &amp; +2.761</td>
<td>S</td>
</tr>
<tr>
<td>3</td>
<td>a&lt;sub&gt;1&lt;/sub&gt; c&lt;sub&gt;1&lt;/sub&gt; &amp; a&lt;sub&gt;2&lt;/sub&gt; c&lt;sub&gt;2&lt;/sub&gt;</td>
<td>5.566 &amp; 8.558</td>
<td>-4.13 &amp; -1.854</td>
<td>S</td>
</tr>
<tr>
<td>4</td>
<td>a&lt;sub&gt;1&lt;/sub&gt; c&lt;sub&gt;2&lt;/sub&gt; &amp; a&lt;sub&gt;2&lt;/sub&gt; c&lt;sub&gt;1&lt;/sub&gt;</td>
<td>7.00 &amp; 3.986</td>
<td>+1.603 &amp; +4.425</td>
<td>S</td>
</tr>
<tr>
<td>5</td>
<td>a&lt;sub&gt;1&lt;/sub&gt; c&lt;sub&gt;2&lt;/sub&gt; &amp; a&lt;sub&gt;2&lt;/sub&gt; c&lt;sub&gt;2&lt;/sub&gt;</td>
<td>7.00 &amp; 8.558</td>
<td>-2.934 &amp; -0.182</td>
<td>S</td>
</tr>
<tr>
<td>6</td>
<td>a&lt;sub&gt;2&lt;/sub&gt; c&lt;sub&gt;1&lt;/sub&gt; &amp; a&lt;sub&gt;2&lt;/sub&gt; c&lt;sub&gt;2&lt;/sub&gt;</td>
<td>3.986 &amp; 8.558</td>
<td>-5.71 &amp; -3.434</td>
<td>S</td>
</tr>
</tbody>
</table>

NS: Not Significant  S = Significant

Note: Higher Mean Scores on Depersonalization correspond to higher degrees of experienced burnout.  

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The above table reveals the following:

1. As the simultaneous confidence interval values of Sl.No.1 are in the same direction i.e., -2.845 and -0.023, the difference is significant.

   Hence, the mean of the treatment groups $a_1 c_1$ (5.566) and $a_1 c_2$ (7.00) differ significantly in respect of their proneness to burnout on Depersonalization.

   However, the observation of the two means clearly indicates that, the mean of the treatment group $a_1 c_2$ is greater than the mean of treatment $a_1 c_1$. This further implies that the open climate physical education teachers coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the open climate physical education teachers coming from homes of Happy climates.

2. As the simultaneous confidence interval values of Sl.No.2, are in the same direction, i.e., + 0.399 and + 2.761, the difference is significant.
Hence, the mean of the treatment groups $a_1 c_1 (5.566)$ and $a_2 c_1 (3.986)$ differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_1 c_1$ is greater than the mean of the treatment group $a_2 c_1$. This further implies that, the Open climate physical education teachers coming from homes of the Happy climate are more prone to burnout on Depersonalization than the closed climate physical education teachers coming from the homes of Happy climate.

3. As the simultaneous confidence interval values of Sl.No.3, are in the same direction, i.e., - 4.13 and - 1.854, the difference is significant.

Hence, the mean of the treatment groups $a_1 c_1 (5.566)$ and $a_2 c_2 (8.558)$ differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_2 c_2$ is greater than the mean of the treatment group $a_1 c_1$. This further implies that the closed
climate-physical education teachers coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the open climate physical education teachers coming from homes of Happy climate.

4. As the simultaneous confidence interval values of Sl.No.4, are in the same direction, i.e., +1.603 and +4.425, the difference is significant.

Hence, the mean of the treatment groups $a_1 c_2$ (7.00) and $a_2 c_1$ (3.986) differ significantly in respect of their proneness to burnout $c_1$. Depersonalization.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_1 c_2$ is greater than the mean of the treatment group $a_2 c_1$. This further implies that the open climate physical education teachers coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the closed climate physical education teachers coming from homes of Happy climate.
5. As the simultaneous confidence interval values of Sl.No.5, are in the same direction, i.e., -2.934 and -0.182, the difference is significant.

Hence, the mean of the treatment groups $a_1 c_2$ (7.00) and $a_2 c_2$ (8.558) differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_2 c_2$ is greater than the mean of the treatment group $a_1 c_2$. This further implies that the closed climate physical education teachers coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the open climate physical education teachers coming from homes of Unhappy climate.

6. As the simultaneous confidence interval values of Sl.No.3, are in the same direction, i.e., -5.71 and -3.434, the difference is significant.

Hence, the mean of the treatment groups $a_2 c_1$ (3.986) and $a_2 c_2$ (8.558) differ significantly in respect of their proneness to burnout on Depersonalization.
However, the observation of the two means clearly indicates that, the mean of the treatment group \(a_2 c_2\) is greater than the mean of the treatment group \(a_2 c_1\). This further implies that the closed climate physical education teachers coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the closed climate physical education teachers coming from homes of Happy climate.

7. Extrovert/Introvert physical education teachers working in schools with open/closed climate, coming from homes of Happy/Unhappy climate differ significantly in terms of their proneness to burnout on Depersonalization.

Vide Appendix - L, there are 8 treatment group of physical education teachers. The obtained F-ratio (29.780) with reference to finding 7 indicates that the treatment groups differ significantly. However, it is not clear from the above finding that which of the comparisons of the treatment groups differ significantly in terms of their proneness to burnout on Depersonalization. Hence, to know this, comparison of means of all the treatment groups is carried out following the procedure already stated in Section-2. The simultaneous confidence interval values are presented in Table 4.13.
### Table 4.13: Comparison of Means of Treatment groups on Depersonalisation – Scheffe’s Simultaneous Confidence Intervals

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Comparison of Treatment Groups</th>
<th>Corresponding Means</th>
<th>Simultaneous Confidence Intervals</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>$a_1b_1c_1$ &amp; $a_1b_1c_2$</td>
<td>5.368 &amp; 6.623</td>
<td>-2.925 &amp; +0.415</td>
<td>NS</td>
</tr>
<tr>
<td>2.</td>
<td>$a_1b_1c_1$ &amp; $a_1b_2c_1$</td>
<td>5.368 &amp; 6.290</td>
<td>-2.944 &amp; +1.1</td>
<td>NS</td>
</tr>
<tr>
<td>3.</td>
<td>$a_1b_1c_1$ &amp; $a_1b_2c_2$</td>
<td>5.368 &amp; 7.8</td>
<td>-4.878 &amp; +0.014</td>
<td>NS</td>
</tr>
<tr>
<td>4.</td>
<td>$a_1b_1c_1$ &amp; $a_2b_1c_1$</td>
<td>5.368 &amp; 3.382</td>
<td>+0.61 &amp; +3.362</td>
<td>S</td>
</tr>
<tr>
<td>5.</td>
<td>$a_1b_1c_1$ &amp; $a_2b_2c_2$</td>
<td>5.368 &amp; 8.535</td>
<td>-4.613 &amp; -1.721</td>
<td>S</td>
</tr>
<tr>
<td>6.</td>
<td>$a_1b_1c_1$ &amp; $a_2b_2c_1$</td>
<td>5.368 &amp; 5.605</td>
<td>-2.104 &amp; +1.63</td>
<td>NS</td>
</tr>
<tr>
<td>7.</td>
<td>$a_1b_1c_2$ &amp; $a_2b_2c_2$</td>
<td>5.368 &amp; 8.588</td>
<td>-4.436 &amp; -2.004</td>
<td>S</td>
</tr>
<tr>
<td>8.</td>
<td>$a_1b_1c_2$ &amp; $a_1b_2c_1$</td>
<td>6.623 &amp; 6.290</td>
<td>-2.253 &amp; +2.919</td>
<td>NS</td>
</tr>
<tr>
<td>9.</td>
<td>$a_1b_1c_2$ &amp; $a_1b_2c_2$</td>
<td>6.623 &amp; 7.8</td>
<td>-3.602 &amp; +1.248</td>
<td>NS</td>
</tr>
<tr>
<td>10.</td>
<td>$a_1b_1c_2$ &amp; $a_2b_1c_1$</td>
<td>6.623 &amp; 3.382</td>
<td>+1.541 &amp; +4.941</td>
<td>S</td>
</tr>
<tr>
<td>11.</td>
<td>$a_1b_1c_2$ &amp; $a_2b_1c_2$</td>
<td>6.623 &amp; 8.535</td>
<td>-3.671 &amp; +0.153</td>
<td>S</td>
</tr>
<tr>
<td>12.</td>
<td>$a_1b_1c_2$ &amp; $a_2b_2c_1$</td>
<td>6.623 &amp; 5.605</td>
<td>-1.1 &amp; +3.136</td>
<td>NS</td>
</tr>
<tr>
<td>13.</td>
<td>$a_1b_1c_2$ &amp; $a_2b_2c_2$</td>
<td>6.623 &amp; 5.605</td>
<td>-3.779 &amp; -0.151</td>
<td>S</td>
</tr>
<tr>
<td>14.</td>
<td>$a_1b_2c_1$ &amp; $a_1b_2c_2$</td>
<td>6.290 &amp; 7.8</td>
<td>-4.188 &amp; +1.168</td>
<td>NS</td>
</tr>
<tr>
<td>15.</td>
<td>$a_1b_2c_1$ &amp; $a_2b_1c_1$</td>
<td>6.290 &amp; 3.382</td>
<td>+0.862 &amp; +4.954</td>
<td>S</td>
</tr>
<tr>
<td>16.</td>
<td>$a_1b_2c_1$ &amp; $a_2b_1c_2$</td>
<td>6.290 &amp; 8.535</td>
<td>-4.34 &amp; -0.15</td>
<td>S</td>
</tr>
<tr>
<td>17.</td>
<td>$a_1b_2c_1$ &amp; $a_2b_2c_1$</td>
<td>6.290 &amp; 5.605</td>
<td>-1.72 &amp; +3.09</td>
<td>NS</td>
</tr>
<tr>
<td>18.</td>
<td>$a_1b_2c_1$ &amp; $a_2b_2c_2$</td>
<td>6.290 &amp; 8.588</td>
<td>-4.461 &amp; -0.135</td>
<td>S</td>
</tr>
<tr>
<td>19.</td>
<td>$a_1b_2c_2$ &amp; $a_2b_1c_1$</td>
<td>7.8 &amp; 3.382</td>
<td>+2.186 &amp; +6.65</td>
<td>S</td>
</tr>
<tr>
<td>20.</td>
<td>$a_1b_2c_2$ &amp; $a_2b_1c_2$</td>
<td>7.8 &amp; 8.535</td>
<td>-3.012 &amp; +1.542</td>
<td>NS</td>
</tr>
<tr>
<td>21.</td>
<td>$a_1b_2c_2$ &amp; $a_2b_2c_1$</td>
<td>7.8 &amp; 5.605</td>
<td>-0.369 &amp; +4.759</td>
<td>NS</td>
</tr>
<tr>
<td>22.</td>
<td>$a_1b_2c_2$ &amp; $a_2b_2c_2$</td>
<td>7.8 &amp; 8.588</td>
<td>-3.128 &amp; +1.552</td>
<td>NS</td>
</tr>
<tr>
<td>23.</td>
<td>$a_2b_1c_1$ &amp; $a_2b_1c_2$</td>
<td>3.382 &amp; 8.535</td>
<td>-6.635 &amp; -3.671</td>
<td>S</td>
</tr>
<tr>
<td>24.</td>
<td>$a_2b_1c_1$ &amp; $a_2b_2c_1$</td>
<td>3.382 &amp; 5.605</td>
<td>-4.117 &amp; -0.329</td>
<td>S</td>
</tr>
<tr>
<td>25.</td>
<td>$a_2b_1c_1$ &amp; $a_2b_2c_2$</td>
<td>3.382 &amp; 8.588</td>
<td>-6.784 &amp; -3.628</td>
<td>S</td>
</tr>
<tr>
<td>26.</td>
<td>$a_2b_1c_2$ &amp; $a_2b_2c_1$</td>
<td>8.535 &amp; 5.605</td>
<td>+0.985 &amp; +4.875</td>
<td>S</td>
</tr>
<tr>
<td>27.</td>
<td>$a_2b_1c_2$ &amp; $a_2b_2c_2$</td>
<td>8.535 &amp; 8.588</td>
<td>-1.694 &amp; +1.588</td>
<td>NS</td>
</tr>
<tr>
<td>28.</td>
<td>$a_2b_2c_1$ &amp; $a_2b_2c_2$</td>
<td>5.605 &amp; 8.588</td>
<td>-5.005 &amp; -0.961</td>
<td>S</td>
</tr>
</tbody>
</table>

**NS:** Not Significant  
**S:** Significant

**Note:** Lower Mean scores on Depersonalization Correspond to higher degrees of experienced burnout.13
The above table reveals the following:

1. As the simultaneous confidence interval values of Sl. No. 1, are not in the same direction i.e., -2.925 and +0.415, the difference is not significant.

   Hence, the mean of the treatment groups \( a_1b_1c_1 \) (5.368) and \( a_1b_1c_2 \) (6.623) do not differ significantly in respect of their proneness to burnout on Depersonalization.

   This further implies that the Extrovert physical education teachers working in schools with open climate coming from homes of Happy climate and Extrovert physical education teachers working in schools with open climate coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Depersonalization.

2. As the simultaneous confidence interval values of Sl. No. 2, are not in the same direction i.e., -2.944 and +1.1, the difference is not significant.

   Hence, the mean of the treatment groups \( a_1b_1c_1 \) (5.368) and \( a_1b_2c_1 \) (6.290) do not differ significantly in respect of their proneness to burnout on Depersonalization.
that the Extrovert physical education teachers working in schools with open climate coming from homes of Happy climate and Introvert physical education teachers working in schools with open climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Depersonalization.

3. As the simultaneous confidence interval values of Sl. No. 3, are not in the same direction i.e., -4.878 and +0.014, the difference is not significant.

Hence, the mean of the treatment groups a₁b₁c₁ (5.368) and a₁b₂c₂ (7.8) do not differ significantly in respect of their proneness to burnout on Depersonalization.

This further implies that the Extrovert physical education teachers working in schools with open climate coming from homes of Happy climate and Introvert physical education teachers working in schools with open climate coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Depersonalization.
4. As the simultaneous confidence interval values of Sl. No. 4, are in the same direction i.e., +0.61 and +3.362, the difference is significant.

Hence, the mean of the treatment groups $a_1b_1c_1$ (5.368) and $a_2b_1c_1$ (3.382) differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that, the means of the treatment groups $a_1b_1c_1$ is greater than the mean of the treatment groups $a_2b_1c_1$. This further implies that Extrovert physical education teachers working in schools with open climate coming from homes of Happy climate are more prone to burnout on Depersonalization than the Extrovert physical education teachers working in schools with closed climate coming from homes of Happy climate.

5. As the simultaneous confidence interval values of Sl. No. 5, are in the same direction i.e., -4.613 and -1.721, the difference is significant.

Hence, the mean of the treatment groups $a_1b_1c_1$ (5.368) and $a_2b_1c_2$ (8.535) differ significantly in respect of their proneness to burnout on Depersonalization.
However, the observation of the two means clearly indicates that, the mean of the treatment groups $a_2b_1c_2$ is greater than the mean of the treatment group $a_1b_1c_1$. This further implies that the Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the Extrovert physical education teachers working in schools with open climate coming from homes of Happy climate.

6. As the simultaneous confidence interval values of Sl. No. 6, are not in the same direction i.e., -2.104 and +1.63, the difference is not significant.

Hence, the mean of the treatment groups $a_1b_1c_1$ (5.368) and $a_2b_2c_1$ (5.605) do not differ significantly in respect of their proneness to burnout on Depersonalization.

This further implies that the Extrovert physical education teachers working in schools with open climate coming from homes of Happy climate and Introvert physical education teachers working in schools with closed climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Depersonalization.
7. As the simultaneous confidence interval values of Sl. No. 7, are in the same direction i.e., -4.436 and -2.004, the difference is significant.

Hence, the mean of the treatment groups $a_1b_1c_1$ (5.368) and $a_2b_2c_2$ (8.588) differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_2b_2c_2$ is greater than the mean of the treatment group $a_1b_1c_1$. This further implies that Introvert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the Extrovert physical education teachers working in schools with open climate coming from homes of Happy climate.

8. As the simultaneous confidence interval values of Sl. No. 8, are not in the same direction i.e., -2.253 and +2.919, the difference is not significant.

Hence, the mean of the treatment groups $a_1b_1c_2$ (6.623) and $a_1b_2c_1$ (6.290) do not differ significantly in respect of their proneness to burnout on Depersonalization.
This further implies that the Extrovert physical education teachers working in schools with open climate coming from homes of Unhappy climate and Introvert physical education teachers working in schools with open climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Depersonalization.

9. As the simultaneous confidence interval values of Sl. No. 9, are not in the same direction i.e., -3.602 and +1.248, the difference is not significant.

Hence, the mean of the treatment groups $a_1b_1c_2$ (6.623) and $a_1b_2c_2$ (7.8) do not differ significantly in respect of their proneness to burnout on Depersonalization.

This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Unhappy climate and Extrovert physical education teachers working in schools with open climate coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Depersonalization.
10. As the simultaneous confidence interval values of Sl. No. 10, are in the same direction i.e., +1.541 and +4.941, the difference is significant.

Hence, the mean of the treatment groups $a_1b_1c_2$ (6.623) and $a_2b_1c_1$ (3.382) differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that the mean of the treatment groups $a_1b_1c_2$ is greater than the mean of the treatment group $a_2b_1c_1$. This further implies that the Extrovert physical education teachers working in schools with open climate coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the Extrovert physical education teachers working in schools with closed climate coming from homes of Happy climate.

11. As the simultaneous confidence interval values of Sl. No. 11, are in the same direction i.e., -3.671 and -0.153, the difference is significant.
Hence, the mean of the treatment groups $a_1b_1c_2$ (6.623) and $a_2b_1c_2$ (8.535) differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that the mean of the treatment groups $a_2b_1c_2$ is greater than the mean of the treatment group $a_1b_1c_2$. This further implies that the Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the Extrovert physical education teachers working in schools with open climate coming from homes of Unhappy climate.

12. As the simultaneous confidence interval values of Sl. No. 12, are not in the same direction i.e., -1.1 and +3.136, the difference is not significant.

Hence, the mean of the treatment groups $a_1b_1c_2$ (6.623) and $a_2b_2c_1$ (5.605) do not differ significantly in respect of their proneness to burnout on Depersonalization.

This further implies that the Extrovert physical education teachers working in schools with open climate coming from homes
of Unhappy climate and Introvert physical education teachers working in schools with closed climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Depersonalization.

13. As the simultaneous confidence interval values of Sl. No. 13, are in the same direction i.e., -3.779 and -0.151, the difference is significant.

Hence, the mean of the treatment groups $a_1b_1c_2$ (6.623) and $a_2b_1c_2$ (8.588) differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that the mean of the treatment groups $a_2b_2c_2$ is greater than the mean of the treatment group $a_1b_1c_2$. This further implies that the Introvert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the Extrovert physical education teachers working in schools with open climate coming from homes of Unhappy climate.
14. As the simultaneous confidence interval values of Sl. No. 14, are not in the same direction i.e., -4.188 and +1.168, the difference is not significant.

Hence, the mean of the treatment groups $a_1b_2c_1$ (6.290) and $a_1b_2c_2$ (7.8) do not differ significantly in respect of their proneness to burnout on Depersonalization.

This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Unhappy climate and Introvert physical education teachers working in schools with open climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Depersonalization.

15. As the simultaneous confidence interval values of Sl. No. 15, are in the same direction i.e., +0.862 and +4.954, the difference is significant.

Hence, the mean of the treatment groups $a_1b_2c_1$ (6.290) and $a_2b_1c_1$ (3.382) differ significantly in respect of their proneness to burnout on Depersonalization.
However, the observation of the two means clearly indicates that, the mean of the treatment groups $a_1b_2c_1$ is greater than the means of the group $a_2b_1c_1$. This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Happy climate are more prone to burnout on Depersonalization than the Extrovert physical education teachers working in schools with closed climate coming from homes of Happy climate.

16. As the simultaneous confidence interval values of Sl. No. 16, are in the same direction i.e., -4.34 and -0.15, the difference is significant.

Hence, the mean of the treatment groups $a_1b_2c_1$ (6.290) and $a_2b_1c_2$ (8.535) differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that the mean of the treatment groups $a_2b_1c_2$ is greater than the mean of the treatment group $a_1b_2c_1$. This further implies that the Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout
on Depersonalization than the Introvert physical education teachers working in schools with open climate coming from homes of Happy climate.

17. As the simultaneous confidence interval values of Sl. No. 17, are not in the same direction i.e., -1.72 and +3.09, the difference is not significant.

Hence, the mean of the treatment groups $a_1b_2c_1$ (6.290) and $a_2b_2c_1$ (5.605) do not differ significantly in respect of their proneness to burnout on Depersonalization.

This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Happy climate and Introvert physical education teachers working in schools with closed climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Depersonalization.

18. As the simultaneous confidence interval values of Sl. No. 18, are in the same direction i.e., -4.461 and -0.135, the difference is significant.
Hence, the mean of the treatment groups \(a_1b_2c_1\) (6.290) and \(a_2b_2c_2\) (8.588) differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that the mean of the treatment groups \(a_2b_2c_2\) is greater than the mean of the treatment group \(a_1b_2c_1\). This further implies that the Introvert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the Introvert physical education teachers working in schools with open climate coming from homes of Happy climate.

19. As the simultaneous confidence interval values of Sl. No. 19, are in the same direction i.e., +2.186 and +6.65, the difference is significant.

Hence, the mean of the treatment groups \(a_1b_2c_2\) (7.8) and \(a_2b_1c_1\) (3.382) differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that the mean of the treatment groups \(a_1b_2c_2\) is greater than the mean
of the treatment group $a_2b_1c_1$. This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the Extrovert physical education teachers working in schools with closed climate coming from homes of Happy climate.

20. As the simultaneous confidence interval values of Sl. No. 20, are not in the same direction i.e., -3.012 and +1.542, the difference is not significant.

Hence, the mean of the treatment groups $a_1b_2c_2$ (7.8) and $a_2b_2c_2$ (8.535) do not differ significantly in respect of their proneness to burnout on Depersonalization.

This further implies that the Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate and Introvert physical education teachers working in schools with open climate coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Depersonalization.
21. As the simultaneous confidence interval values of Sl. No. 21, are not in the same direction i.e., -0.369 and +4.759, the difference is not significant.

Hence, the mean of the treatment groups $a_1b_2c_2$ (7.8) and $a_2b_2c_1$ (5.605) do not differ significantly in respect of their proneness to burnout on Depersonalization.

This further implies that the Introvert physical education teachers working in schools with open climate coming from homes of Unhappy climate and Introvert physical education teachers working in schools with closed climate coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Depersonalization.

22. As the simultaneous confidence interval values of Sl. No. 22, are not in the same direction i.e., -3.128 and +1.552, the difference is not significant.

Hence, the mean of the treatment groups $a_1b_2c_2$ (7.8) and $a_2b_2c_2$ (8.588) do not differ significantly in respect of their proneness to burnout on Depersonalization.
This further implies that the Introvert physical education teachers working in schools with closed climate coming from homes of Unhappy climate and Introvert physical education teachers working in schools with open climate coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Depersonalization.

23. As the simultaneous confidence interval values of Sl. No. 23, are in the same direction i.e., -6.635 and -3.671, the difference is significant.

Hence, the mean of the treatment groups a₂b₁c₁ (3.382) and a₂b₁c₂ (8.535) differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that the mean of the treatment groups a₂b₁c₂ is greater than the mean of the treatment group a₂b₁c₁. This further implies that, the Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the Extrovert physical
education teachers working in schools with closed climate coming from homes of Happy climate.

24. As the simultaneous confidence interval values of Sl. No. 24, are in the same direction i.e., -4.117 and -0.329, the difference is significant.

Hence, the mean of the treatment groups \( a_2b_1c_1 \) (3.382) and \( a_2b_2c_1 \) (5.605) differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that the mean of the treatment groups \( a_2b_2c_1 \) is greater than the mean of the treatment group \( a_2b_1c_1 \). This further implies that, the Introvert physical education teachers working in schools with closed climate coming from homes of Happy climate are more prone to burnout on Depersonalization than the Extrovert physical education teachers working in schools with closed climate coming from homes of Happy climate.

25. As the simultaneous confidence interval values of Sl. No. 25, are in the same direction i.e., -6.784 and -3.628, the difference is significant.
Hence, the mean of the treatment groups \( a_2b_1c_1 \) (3.382) and \( a_2b_2c_2 \) (8.588) differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that the mean of the treatment groups \( a_2b_2c_2 \) is greater than the mean of the treatment group \( a_2b_1c_1 \). This further implies that, the Introvert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the Extrovert physical education teachers working in schools with closed climate coming from homes of Happy climate.

26. As the simultaneous confidence interval values of Sl. No. 26, are in the same direction i.e., +0.985 and +4.875, the difference is significant.

Hence, the mean of the treatment groups \( a_2b_1c_2 \) (8.535) and \( a_2b_2c_1 \) (5.605) differ significantly in respect of their proneness to burnout on Depersonalization.

However, the observation of the two means clearly indicates that the mean of the treatment groups \( a_2b_1c_2 \) is greater than the mean
of the treatment group $a_2b_2c_1$. This further implies that, the Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate are more prone to burnout on Depersonalization than the Introvert physical education teachers working in schools with closed climate coming from homes of Happy climate.

27. As the simultaneous confidence interval values of Sl. No. 27, are not in the same direction i.e., $-1.694$ and $+1.588$, the difference is not significant.

Hence, the mean of the treatment groups $a_2b_1c_2$ (8.535) and $a_2b_2c_2$ (8.588) do not differ significantly in respect of their proneness to burnout on Depersonalization.

This further implies that the Introvert physical education teachers working in schools with closed climate coming from homes of Unhappy climate and Extrovert physical education teachers working in schools with closed climate coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Depersonalization.
28. As the simultaneous confidence interval values of Sl. No. 28, are
in the same direction i.e., -5.005 and -0.961, the difference is
significant.

Hence, the mean of the treatment groups $a_2b_2c_1$ (5.605) and
$a_2b_2c_2$ (8.588) differ significantly in respect of their proneness to
burnout on Depersonalization.

However, the observation of the two means clearly indicates
that the mean of the treatment groups $a_2b_2c_2$ is greater than the mean
of the treatment group $a_2b_2c_1$. This further implies that, the Introvert
physical education teachers working in schools with closed climate
coming from homes of Unhappy climate are more prone to burnout
on Depersonalization than the Introvert physical education teachers
working in schools with closed climate coming from homes of
Happy climate.

4.10. Conclusion

The findings presented above indicate that two of the three,
namely the personality types and home climates have significant
main affect while the school climate has no significant effect.
Two of the three 2-way interaction effects seemed to be not significant. However, the A x C interaction seemed to be significant. The 3-way interaction effects is significant. It appears that school climate by itself is not significant with any personality types. However, personality and home climate jointly affect in the particular climate prevailing in the school, with regard to proneness to burnout of physical education teachers. Further, the Unhappy home climate of physical education teachers shows higher proneness to Depersonalization dimension of burnout than the Happy home climate. It is clear from above analysis that home climate is the most important factor that causes depersonalization dimension of burnout among physical education teachers.
SECTION - 4

ANALYSIS OF DATA PERTAINING TO PERSONAL ACCOMPLISHMENT - A DIMENSION OF BURNOUT

In pursuance of the objectives 15 to 21 stated in Chapter III the following research Hypothesis and the corresponding null hypothesis were set-up.

RESEARCH HYPOTHESES

RH₁ Effects of open and closed school climates differ significantly in terms of proneness to burnout of physical education teachers on Personal Accomplishment.

RH₂ Effects of Extroversion and Introversion personality types differ significantly in terms of proneness to burnout of physical education teachers on Personal Accomplishment.

RH₃ Effects of Happy and Unhappy Home Climates differ significantly in terms of proneness to burnout of physical education teachers on Personal Accomplishment.
RH4 Interaction effect of school climates X personality types differ significantly in terms of proneness to burnout of physical education teachers on Personal Accomplishment.

RH5 Interaction effect of personality Types X Home Climates differ significantly in terms of proneness to burnout of physical education teachers on Personal Accomplishment.

RH6 Interaction effect of school climates X Home Climates differ significantly in terms of proneness to burnout of physical education teachers on Personal Accomplishment.

RH7 Interaction effect of school Climates X personality Types X Home Climates differ significantly in terms of proneness to burnout of physical education teachers on Personal Accomplishment.

NULL HYPOTHESES

HO1 There is no significant difference between the effects of open and closed school climates in terms of proneness to burnout of physical education teachers on Personal Accomplishment.
HO₂ There is no significant difference between the effects of extroversion and Introversion personality Types in terms of proneness to burnout of physical education teachers on Personal Accomplishment.

HO₃ There is no significant difference between the effects of Happy and Unhappy Home Climates in terms of proneness to burnout of physical education teachers on Personal Accomplishment.

HO₄ There is no significant difference between the interaction effect of school climates X personality Types in terms of proneness to burnout of physical education teachers on Personal Accomplishment.

HO₅ There is no significant difference between the interaction effect of personality types X Home Climates in terms of proneness to burnout of physical education teachers on Personal Accomplishment.

HO₆ There is no significant difference between the interaction effect of school climates X Home Climates in terms of proneness to
burnout of physical education teachers on Personal Accomplishment.

\( H_0 \) There is no significant difference between the interaction effect of school climates \( \times \) personality Types \( \times \) Home Climates in terms of proneness to burnout of physical education teachers on Personal Accomplishment.

To test the above stated null hypotheses, again the same 3-way Analysis of Variance technique was used. However, prior to the application of ANOVA technique, the same procedure followed in Section - 3 of the Chapter - 4.

**Computation of 3 - way ANOVA**

The steps of 3 - way ANOVA followed in Section-2 are applied here in order to analyse the data on Personal Accomplishment - a dimension of burnout [Vide Appendix - M & N for the respective scores and computational values]. The F-ratios thus calculated are presented in the following summary table:
Table 4.14: Summary Table of ANOVA with respect to personal accomplishment – A Dimension of Burnout

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F-ratio</th>
<th>Significance</th>
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<tbody>
<tr>
<td>Main effects</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>741.509</td>
<td>741.509</td>
<td>7.752</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>1</td>
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<td>31.81</td>
<td>0.333</td>
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<td></td>
<td></td>
<td>4636.2</td>
<td>4636.2</td>
<td>48.466</td>
<td></td>
</tr>
<tr>
<td>2-way interactions</td>
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<td></td>
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</tr>
<tr>
<td>A x B</td>
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<td>38.712</td>
<td>38.712</td>
<td>0.405</td>
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</tr>
<tr>
<td>B x C</td>
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<td>161.577</td>
<td>161.577</td>
<td>1.689</td>
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</tr>
<tr>
<td>A x C</td>
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<td>91.883</td>
<td>0.961</td>
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<tr>
<td>3-way interactions</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>A x B x C</td>
<td></td>
<td>2290.575</td>
<td>2290.575</td>
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<td>48690.546</td>
<td>95.659</td>
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</tr>
<tr>
<td>Total</td>
<td></td>
<td>516</td>
<td>56682.812</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N.S.: Not Significant Table F – 3.86, df 0.05
S : Significant
Interpretation of F-ratios

1. The obtained F-ratio in respect of the factor - A is 7.752 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the null hypotheses (H01) is rejected.

2. The obtained F-ratio in respect of the factor - B is 0.333 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is lesser than the tabled F-ratio at 0.05 level, the difference is not significant. Therefore, the null hypotheses (H02) is accepted.

3. The obtained F-ratio in respect of the Factor - C is 48.466 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the null hypotheses (HO3) is rejected.

4. The obtained F-ratio in respect of interaction between the Factors A and B is 0.405 and corresponding tabled F-ratio is 3.86. Since, the obtained F-ratio is lesser than the tabled F-ratio at 0.05 level, the difference is not significant. Therefore, the null hypotheses (HO4) is accepted.
5. The obtained F-ratio in respect of interaction between the Factors B and C is 1.689 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is lesser than the tabled F-ratio at 0.05 level, the difference is not significant. Therefore, the null hypotheses (H₀₅) is accepted.

6. The obtained F-ratio in respect of interaction between the Factors A and C is 0.961 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is lesser than the tabled F-ratio at 0.05 level, the difference is not significant. Therefore, the null Hypotheses (H₀₆) is accepted.

7. The obtained F-ratio in respect of interaction between the Factors A, B and C is 23.945 and the corresponding tabled F-ratio is 3.86. Since the obtained F-ratio is greater than the tabled F-ratio at 0.05 level, the difference is significant. Therefore, the null hypotheses (H₀₇) is rejected.

4.11. Findings - Personal Accomplishment

On the basis of the above analysis, among the null hypotheses H₀₁, H₀₂, H₀₃, H₀₄, H₀₅, H₀₆ and H₀₇. Only H₀₂, H₀₄, H₀₅ and H₀₆ are accepted and the remaining H₀₁, H₀₃ and H₀₇ are rejected,
thereby HO₂, HO₄, HO₅ and HO₆ are accepted and the remaining HO₁, HO₃ and HO₇ are rejected. This implies that:

1. There is a significant difference between the effects of open and closed school climates in terms of proneness to burnout of physical education teachers on Personal Accomplishment.

   However, the means of Personal Accomplishment scores of open and closed school climates are 35.022 and 32.299 respectively. From this it is evident that closed school climate has a lesser mean than that of the mean of open school climate. Hence, it can be concluded that physical education teachers working in schools with closed climate are more prone to burnout on Personal Accomplishment than those working in schools with open climate.

   It has been observed that lower mean scores on Personal Accomplishment subscale correspond to higher degrees of experienced burnout.¹⁴

2. There is no significant difference between the effects of Extrovert and Introvert personality types in terms of proneness to burnout of physical education teachers on Personal Accomplishment.
3. There is a significant difference between the effects of Happy and Unhappy Home Climates in terms of proneness to burnout of physical education teachers on Personal Accomplishment.

However, the means of Personal Accomplishment scores of physical education teachers coming from homes of Happy and Unhappy climates are 37.065 and 30.256 respectively. From this it is evident that physical education teachers coming from homes of Unhappy climate have lesser mean than those coming from homes of Happy Climate. Hence, it can be concluded that physical education teachers coming from homes of Unhappy Climate are more prone to burnout on Personal Accomplishment than those coming from homes of Happy Climate.

4. Extrovert/Introvert physical education teachers working in schools with open/closed climate do not differ significantly in terms of their proneness to burnout on Personal Accomplishment.

5. Extrovert/Introvert physical education teachers coming from homes of Happy/Unhappy climate do not differ significantly
in terms of their proneness to burnout on Personal Accomplishment.

6. Physical education teachers working in schools with open/closed Climate and coming from homes of Happy/Unhappy Climate do not differ significantly in terms of their proneness to burnout on Personal Accomplishment.

7. Extrovert/Introvert physical education teachers working in schools with open/closed climate, coming from homes of Happy/Unhappy climate do not differ significantly in terms of their proneness to burnout on Personal Accomplishment.

Vide Appendix - N, there are 8 treatment groups of physical education teachers. The obtained F-ratio (23.945) with reference to finding 7 indicates that the treatment groups differ significantly. However, it is not clear from the above finding that which of the comparisons of the treatment groups differ significantly in terms of their proneness to burnout on Personal Accomplishment. Hence to know this, comparison of means of all the treatment groups is carried out following the procedure already stated in Section-2. The simultaneous confidence interval values are presented in the table 4.15.
Table 4.15: Comparison of Means of Treatment Groups on Personal Accomplishment – Scheffe’s Simultaneous Confidence Intervals

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Comparison of Treatment Groups</th>
<th>Corresponding Means</th>
<th>Simultaneous Confidence Intervals</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$a_1b_1c_1$ &amp; $a_1b_1c_2$</td>
<td>38.272 &amp; 32.962</td>
<td>-2.095 &amp; +8.525</td>
<td>S</td>
</tr>
<tr>
<td>2</td>
<td>$a_1b_1c_1$ &amp; $a_1b_2c_1$</td>
<td>38.272 &amp; 37.613</td>
<td>-3.232 &amp; +4.55</td>
<td>N.S.</td>
</tr>
<tr>
<td>3</td>
<td>$a_1b_1c_1$ &amp; $a_1b_2c_2$</td>
<td>38.272 &amp; 31.24</td>
<td>+2.778 &amp; +11.286</td>
<td>S</td>
</tr>
<tr>
<td>4</td>
<td>$a_1b_1c_1$ &amp; $a_2b_1c_1$</td>
<td>38.272 &amp; 35.137</td>
<td>+0.486 &amp; +5.784</td>
<td>S</td>
</tr>
<tr>
<td>5</td>
<td>$a_1b_1c_1$ &amp; $a_2b_1c_2$</td>
<td>38.272 &amp; 29.395</td>
<td>+6.093 &amp; +11.661</td>
<td>S</td>
</tr>
<tr>
<td>6</td>
<td>$a_1b_1c_1$ &amp; $a_2b_2c_1$</td>
<td>38.272 &amp; 37.237</td>
<td>-2.561 &amp; +4.631</td>
<td>N.S.</td>
</tr>
<tr>
<td>7</td>
<td>$a_1b_1c_1$ &amp; $a_2b_2c_2$</td>
<td>38.272 &amp; 27.426</td>
<td>+7.869 &amp; +13.823</td>
<td>S</td>
</tr>
<tr>
<td>8</td>
<td>$a_1b_1c_2$ &amp; $a_1b_2c_1$</td>
<td>32.962 &amp; 37.613</td>
<td>-8.992 &amp; -0.31</td>
<td>S</td>
</tr>
<tr>
<td>9</td>
<td>$a_1b_1c_2$ &amp; $a_1b_2c_2$</td>
<td>32.962 &amp; 31.24</td>
<td>-2.947 &amp; +6.391</td>
<td>N.S.</td>
</tr>
<tr>
<td>10</td>
<td>$a_1b_1c_2$ &amp; $a_2b_1c_1$</td>
<td>32.962 &amp; 35.137</td>
<td>-5.449 &amp; +1.099</td>
<td>N.S.</td>
</tr>
<tr>
<td>11</td>
<td>$a_1b_1c_2$ &amp; $a_2b_1c_2$</td>
<td>32.962 &amp; 29.395</td>
<td>+0.183 &amp; +6.951</td>
<td>S</td>
</tr>
<tr>
<td>12</td>
<td>$a_1b_1c_2$ &amp; $a_2b_2c_1$</td>
<td>32.962 &amp; 37.237</td>
<td>-8.352 &amp; -0.198</td>
<td>S</td>
</tr>
<tr>
<td>13</td>
<td>$a_1b_1c_2$ &amp; $a_2b_2c_2$</td>
<td>32.962 &amp; 27.426</td>
<td>+2.044 &amp; +9.028</td>
<td>S</td>
</tr>
<tr>
<td>14</td>
<td>$a_1b_2c_1$ &amp; $a_1b_2c_2$</td>
<td>37.613 &amp; 31.24</td>
<td>+1.217 &amp; +11.529</td>
<td>S</td>
</tr>
<tr>
<td>15</td>
<td>$a_1b_2c_1$ &amp; $a_2b_1c_1$</td>
<td>37.613 &amp; 35.137</td>
<td>-1.462 &amp; +6.414</td>
<td>N.S.</td>
</tr>
<tr>
<td>16</td>
<td>$a_1b_2c_1$ &amp; $a_2b_1c_2$</td>
<td>37.613 &amp; 29.395</td>
<td>+4.186 &amp; +12.25</td>
<td>S</td>
</tr>
<tr>
<td>17</td>
<td>$a_1b_2c_1$ &amp; $a_2b_2c_1$</td>
<td>37.613 &amp; 37.237</td>
<td>-4.252 &amp; +5.004</td>
<td>N.S.</td>
</tr>
<tr>
<td>18</td>
<td>$a_1b_2c_1$ &amp; $a_2b_2c_2$</td>
<td>37.613 &amp; 27.426</td>
<td>+6.021 &amp; +14.353</td>
<td>S</td>
</tr>
<tr>
<td>19</td>
<td>$a_1b_2c_2$ &amp; $a_2b_1c_1$</td>
<td>31.24 &amp; 35.137</td>
<td>-8.194 &amp; +0.4</td>
<td>N.S.</td>
</tr>
<tr>
<td>20</td>
<td>$a_1b_2c_2$ &amp; $a_2b_1c_2$</td>
<td>31.24 &amp; 29.395</td>
<td>-2.537 &amp; +6.227</td>
<td>N.S.</td>
</tr>
<tr>
<td>21</td>
<td>$a_1b_2c_2$ &amp; $a_2b_2c_1$</td>
<td>31.24 &amp; 37.237</td>
<td>-10.935 &amp; -1.059</td>
<td>S</td>
</tr>
<tr>
<td>22</td>
<td>$a_1b_2c_2$ &amp; $a_2b_2c_2$</td>
<td>31.24 &amp; 27.426</td>
<td>-0.694 &amp; +8.322</td>
<td>N.S.</td>
</tr>
<tr>
<td>23</td>
<td>$a_2b_1c_1$ &amp; $a_1b_1c_2$</td>
<td>35.137 &amp; 29.395</td>
<td>+2.891 &amp; +8.593</td>
<td>S</td>
</tr>
<tr>
<td>24</td>
<td>$a_2b_1c_1$ &amp; $a_2b_1c_2$</td>
<td>35.137 &amp; 37.237</td>
<td>-5.747 &amp; +1.547</td>
<td>N.S.</td>
</tr>
<tr>
<td>25</td>
<td>$a_2b_1c_1$ &amp; $a_2b_2c_2$</td>
<td>35.137 &amp; 27.426</td>
<td>+4.673 &amp; +10.749</td>
<td>S</td>
</tr>
<tr>
<td>26</td>
<td>$a_2b_1c_2$ &amp; $a_2b_2c_1$</td>
<td>29.395 &amp; 37.237</td>
<td>-11.589 &amp; -4.095</td>
<td>S</td>
</tr>
<tr>
<td>27</td>
<td>$a_2b_1c_2$ &amp; $a_2b_2c_2$</td>
<td>29.395 &amp; 27.426</td>
<td>-1.189 &amp; +5.127</td>
<td>N.S.</td>
</tr>
<tr>
<td>28</td>
<td>$a_2b_2c_1$ &amp; $a_2b_2c_2$</td>
<td>37.237 &amp; 27.426</td>
<td>+5.92 &amp; +13.702</td>
<td>S</td>
</tr>
</tbody>
</table>

NS = Not Significant  S : Significant

Note: Lower mean scores on Personal Accomplishment correspond to higher degrees of experienced burnout.\(^{15}\)
The above table reveals the following:

1. As the simultaneous confidence interval values of Sl.No. 1, are in the same direction, i.e., + 2.095 and + 8.525, the difference is significant.

   Hence, the mean of the treatment groups a_1b_1c_1 (38.272) and a_1b_1c_2(32.962) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

   However, the observation of the two means clearly indicates that, the mean of the treatment group a_1 b_1 c_2 is lesser than the mean of the treatment group a_1 b_1 c_1. This further implies that the Extrovert physical education teachers working in schools with open climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than Extrovert physical education teachers working in schools with open climate, coming from homes of Happy Climate.

2. As the simultaneous confidence interval values of Sl. No. 2, are not in the same direction, i.e., - 3.232 and + 4.55, the difference is not significant.
Hence, the mean of the treatment groups $a_1 b_1 c_1 (38.272)$ and $a_1 b_2 c_1 (37.613)$ do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

This further implies that the Extrovert physical education teachers working in schools with open climate, coming from homes of Happy climate, and the Introvert physical education teachers working in schools with open climate, coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

3. As the simultaneous confidence interval values of Sl. No. 3, are in the same direction, i.e., + 2.778 and + 11.286, the difference is significant.

Hence, the mean of the treatment groups $a_1 b_1 c_1 (38.272)$ and $a_1 b_2 c_2 (31.24)$ differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_1 b_2 c_2$ is lesser than the mean of the treatment group $a_1 b_1 c_1$. This further implies that the Introvert physical education teachers working in schools with open climate,
coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than Extrovert physical education teachers working in schools with open climate, coming from homes of Happy Climate.

4. As the simultaneous confidence interval values of Sl. No. 4, are in the same direction, i.e., + 0.486 and + 5.784, the difference is significant.

Hence, the mean of the treatment groups $a_1 b_1 c_1$ (38.272) and $a_2 b_1 c_1$ (35.137) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_2 b_1 c_1$ is lesser than the mean of the treatment group $a_1 b_1 c_1$. This further implies that the Extrovert physical education teachers working in schools with closed climate, coming from homes of Happy climate are more prone to burnout on Personal Accomplishment than the Extrovert physical education teachers working in schools with open climate, coming from homes of Happy Climate.
5. As the simultaneous confidence interval values of Sl. No. 5, are in the same direction, i.e., + 6.093 and + 11.661, the difference is significant.

Hence, the mean of the treatment groups a_1 b_1 c_1 (38.272) and a_2 b_1 c_2 (29.395) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group a_2 b_1 c_2 is lesser than the mean of the treatment group a_1 b_1 c_1. This further implies that the Extrovert physical education teachers working in schools, climates, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Extrovert physical education teachers working in schools with open climate, coming from homes of Happy Climate.

6. As the simultaneous confidence interval values of Sl. No. 6, are not in the same direction, i.e., -2.561 and + 4.631, the difference is not significant.

Hence, the mean of the treatment groups a_1 b_1 c_1 (38.272) and a_2 b_2 c_1 (37.237) do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.
This further implies that the Extrovert physical education teachers working in schools with open climate, coming from homes of Happy climate, and the Introvert physical education teachers working in schools with closed climate, coming from homes of Happy Climate do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

7. As the simultaneous confidence interval values of Sl. No. 7, are in the same direction, i.e., + 7.869 and + 13.823, the difference is significant.

Hence, the mean of the treatment groups \( a_1 b_1 c_1 \) (38.272) and \( a_2 b_2 c_2 \) (27.426) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group \( a_2 b_2 c_2 \) is lesser than the mean of the treatment group \( a_1 b_1 c_1 \). This further implies that Introvert physical education teachers working in schools with closed climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Extrovert physical education
As the simultaneous confidence interval values of Sl. No. 8, are in the same direction, i.e., -8.992 and -0.31, the difference is significant.

Hence, the mean of the treatment groups $a_1 b_1 c_2$ (32.962) and $a_1 b_2 c_1$ (37.613) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_1 b_1 c_2$ is lesser than the mean of the treatment group $a_1 b_2 c_1$. This further implies that Extrovert physical education teachers working in schools with open climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Introvert physical education teachers working in schools with open climate, coming from homes of Happy Climate.

As the simultaneous confidence interval values of Sl. No. 9, are not in the same direction, i.e., -2.947 and +6.391, the difference is not significant.
Hence, the mean of the treatment groups $a_1 b_1 c_2 (32.962)$ and $a_1b_2c_2 (31.24)$ do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

This further implies that Extrovert physical education teachers working in schools with open climate, coming from homes of Unhappy climate and the Introvert physical education teachers working in schools with open climate, coming from homes of Unhappy Climate, do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

10. As the simultaneous confidence interval values of Sl. No.10, are not in the same direction, i.e., -5.449 and +1.099, the difference is not significant.

Hence, the mean of the treatment groups $a_1 b_1 c_2 (32.962)$ and $a_2b_1c_1 (35.137)$ do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

This further implies that Extrovert physical education teachers working in schools with open climate, coming from homes of Unhappy climate and the Extrovert physical education teachers working in schools with closed climate, coming from homes of
Happy Climate, do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

11. As the simultaneous confidence interval values of Sl. No.11, are in the same direction, i.e., +0.183 and +6.951, the difference is significant.

Hence, the mean of the treatment groups $a_1 b_1 c_2$ (32.962) and $a_2 b_1 c_2$ (29.395) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_2 b_1 c_2$ is lesser than the mean of the treatment group $a_1 b_1 c_2$. This further implies that the Extrovert physical education teachers working in schools with closed climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Extrovert physical education teachers working in schools with open climate, coming from homes of Unhappy Climate.

12. As the simultaneous confidence interval values of Sl. No.12, are in the same direction, i.e., -8.352 and -0.198, the difference is significant.
Hence, the mean of the treatment groups $a_1 b_1 c_2$ (32.962) and $a_2 b_2 c_1$ (37.237) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_1 b_1 c_2$ is lesser than the mean of the treatment group $a_2 b_2 c_1$. This further implies that Extrovert physical education teachers working in schools with open climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Introvert physical education teachers working in schools with closed climate, coming from homes of Happy climate.

13. As the simultaneous confidence interval values of Sl. No.13, are in the same direction, i.e., +2.044 and +9.028, the difference is significant.

Hence, the mean of the treatment groups $a_1 b_1 c_2$ (32.962) and $a_2 b_2 c_2$ (27.426) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_2 b_2 c_2$ is lesser than the mean
of the treatment group $a_1b_1c_2$. This further implies that the Introvert physical education teachers working in schools with closed climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Extrovert physical education teachers working in schools with open climate, coming from homes of Unhappy climate.

14. As the simultaneous confidence interval values of Sl. No.14, are in the same direction, i.e., +1.217 and +11.529, the difference is significant.

Hence, the mean of the treatment groups $a_1b_2c_1$ (37.613) and $a_1b_2c_2$ (31.24) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_1b_2c_2$ is lesser than the mean of the treatment group $a_1b_2c_1$. This further implies that the Introvert physical education teachers working in schools with open climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Introvert physical education
teachers working in schools with open climate, coming from homes of Happy climate.

15. As the simultaneous confidence interval values of Sl. No.15, are not in the same direction, i.e., -1.462 and +6.414, the difference is not significant.

Hence, the mean of the treatment groups $a_1 b_2 c_1$ (37.613) and $a_2 b_1 c_1$ (35.137) do not significantly in respect of their proneness to burnout on Personal Accomplishment.

This further implies that Introvert physical education teachers working in schools with open climate, coming from homes of Happy climate and the Extrovert physical education teachers working in schools with closed climate, coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

16. As the simultaneous confidence interval values of Sl. No.16, are in the same direction, i.e., +4.186 and +12.25, the difference is significant.
Hence, the mean of the treatment groups a\textsubscript{1} b\textsubscript{2} c\textsubscript{1} (37.613) and a\textsubscript{2}b\textsubscript{1}c\textsubscript{2} (29.395) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group a\textsubscript{2} b\textsubscript{1}c\textsubscript{2} is lesser than the mean of the treatment group a\textsubscript{1}b\textsubscript{2}c\textsubscript{1}. This further implies that the Extrovert physical education teachers working in schools with closed climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Introvert physical education teachers working in schools with open climate, coming from homes of Happy climate.

17. As the simultaneous confidence interval values of Sl. No.17, are not in the same direction, i.e., -4.252 and + 5.004, the difference is not significant.

Hence, the mean of the treatment groups a\textsubscript{1} b\textsubscript{2} c\textsubscript{1} (37.613) and a\textsubscript{2}b\textsubscript{2}c\textsubscript{1} (37.237) do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

This further implies that the Introvert physical education teachers working in schools with open climate, coming from homes
of Happy climate and Introvert physical education teachers working in schools with closed climate, coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

18. As the simultaneous confidence interval values of Sl. No.18, are in the same direction, i.e., +6.021 and +14.353, the difference is significant.

Hence, the mean of the treatment groups $a_1 b_2 c_1$ (37.613) and $a_2 b_2 c_2$ (27.426) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_2 b_2 c_2$ is lesser than the mean of the treatment group $a_1 b_2 c_1$. This further implies that the Introvert physical education teachers working in schools with closed climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Introvert physical education teachers working in schools with open climate, coming from homes of Happy climate.
19. As the simultaneous confidence interval values of Sl. No.19, are not in the same direction, i.e., -8.194 and + 0.4, the difference is not significant.

Hence, the mean of the treatment groups \(a_1 b_2 c_2 (31.24)\) and \(a_2 b_1 c_1 (35.137)\) do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

This further implies that the Introvert physical education teachers working in schools with open climate, coming from homes of Unhappy climate and Extrovert physical education teachers working in schools with closed climate, coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

20. As the simultaneous confidence interval values of Sl. No.20, are not in the same direction, i.e., -2.537 and + 6.227, the difference is not significant.

Hence, the mean of the treatment groups \(a_1 b_2 c_2 (31.24)\) and \(a_2 b_1 c_2 (29.395)\) do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.
This further implies that the Introvert physical education teachers working in schools with open climate, coming from homes of Unhappy climate and Extrovert physical education teachers working in schools with closed climate, coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

21. As the simultaneous confidence interval values of Sl. No.21, are in the same direction, i.e., -10.935 and -1.059, the difference is significant.

Hence, the mean of the treatment groups \(a_1b_2c_2\) (31.24) and \(a_2b_2c_4\) (37.237) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group \(a_1b_2c_2\) is lesser than the mean of the treatment group \(a_2b_2c_1\). This further implies that the Introvert physical education teachers working in schools with open climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Introvert physical education
teachers working in schools with closed climate, coming from homes of Happy climate.

22. As the simultaneous confidence interval values of Sl. No.22, are not in the same direction, i.e., -0.694 and + 8.322, the difference is not significant.

Hence, the mean of the treatment groups $a_1 b_2 c_2$ (31.24) and $a_2 b_2 c_2$ (27.426) do not significantly in respect of their proneness to burnout on Personal Accomplishment.

This further implies that the Introvert physical education teachers working in schools with open climate, coming from homes of Unhappy climate and Introvert physical education teachers working in schools with closed climate, coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

23. As the simultaneous confidence interval values of Sl. No.23, are in the same direction, i.e., + 2.891 and + 8.593, the difference is significant.
Hence, the mean of the treatment groups $a_2 b_1 c_1$ (35.137) and $a_2 b_1 c_2$ (29.395) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_2 b_1 c_2$ is lesser than the mean of the treatment group $a_2 b_1 c_1$. This further implies that the Extrovert physical education teachers working in schools with closed climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Extrovert physical education teachers working in schools with closed climate, coming from homes of Happy climate.

24. As the simultaneous confidence interval values of Sl. No.24, are not in the same direction, i.e., -5.747 and +1.547, the difference is not significant.

Hence, the mean of the treatment groups $a_2 b_1 c_1$ (35.137) and $a_2 b_2 c_1$ (37.237) do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

This further implies that the Extrovert physical education teachers working in schools with closed climate, coming from homes
of Happy climate and Introvert physical education teachers working in schools with closed climate, coming from homes of Happy climate do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

25. As the simultaneous confidence interval values of Sl. No.25, are in the same direction, i.e., +4.673 and +10.749, the difference is significant.

Hence, the mean of the treatment groups $a_2b_1c_1$ (35.137) and $a_2b_2c_2$ (27.426) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group $a_2b_2c_2$ is lesser than the mean of the treatment group $a_2b_1c_1$. This further implies that the Introvert physical education teachers working in schools with closed climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Extrovert physical education teachers working in schools with closed climate, coming from homes of Happy climate.
26. As the simultaneous confidence interval values of Sl. No.26, are in the same direction, i.e., -11.589 and -4.095, the difference is significant.

Hence, the mean of the treatment groups a2 b1 c2 (29.395) and a2b2c1 (37.237) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group a2 b1 c2 is lesser than the mean of the treatment group a2 b2 c1. This further implies that the Extrovert physical education teachers working in schools with closed climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Introvert physical education teachers working in schools with closed climate, coming from homes of Happy climate.

27. As the simultaneous confidence interval values of Sl. No.27, are not in the same direction, i.e., -1.189 and +5.127, the difference is significant.

Hence, the mean of the treatment groups a2 b1 c2 (29.395) and a2b2c2 (27.426) do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.
This further implies that the Extrovert physical education teachers working in schools with closed climate, coming from homes of Unhappy climate and Introvert physical education teachers working in schools with closed climate, coming from homes of Unhappy climate do not differ significantly in respect of their proneness to burnout on Personal Accomplishment.

28. As the simultaneous confidence interval values of Sl. No.28, are in the same direction, i.e., + 5.92 and + 13.702, the difference is significant.

Hence, the mean of the treatment groups \( a_2 b_2 c_1 \) (37.237) and \( a_2 b_2 c_2 \) (27.426) differ significantly in respect of their proneness to burnout on Personal Accomplishment.

However, the observation of the two means clearly indicates that, the mean of the treatment group \( a_2 b_2 c_2 \) is lesser than the mean of the treatment group \( a_2 b_2 c_1 \). This further implies that the Introvert physical education teachers working in schools with closed climate, coming from homes of Unhappy climate are more prone to burnout on Personal Accomplishment than the Introvert physical education teachers working in schools with closed climate, coming from homes of Happy climate.
4.12. Conclusion:

The findings presented above indicate that the two of the three main factors namely, the School Climate and the Home Climate of physical education teachers shows significant effect on Personal Accomplishment dimension of burnout, with home climate having the highest contribution. Since all the 2-way interaction effects seemed to be not significant and 3-way interaction effect significant. It appears that school climate and home climate jointly affect the particular personality type with regard to proneness to burnout of physical education teachers.

Thus the Unhappy home climate shows higher proneness to personality dimension of Personal Accomplishment of burnout than the Happy Home Climate of physical education teachers irrespective of their personality. It is clear from above analysis that, home climate is the most important factors that causes Personal Accomplishment dimension of burnout among physical education teachers.
SECTION - 5

OVERALL CONCLUSION

4.13. Concluding Remarks

So far the analysis has examined each of the three dimensions of burnout separately. In order to have a comprehensive view of the effects of factors on burnout, a comparative picture is given in the table below:

Table 4.16: Significance of effects of factors on Burnout – A Summary Table

<table>
<thead>
<tr>
<th>Factors</th>
<th>Emotional Exhaustion</th>
<th>Depersonalization</th>
<th>Personal Accomplishment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main effects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Significant</td>
<td>Not Significant</td>
<td>Significant</td>
</tr>
<tr>
<td>B</td>
<td>Significant</td>
<td>Significant</td>
<td>Not Significant</td>
</tr>
<tr>
<td>C</td>
<td>Significant</td>
<td>Significant</td>
<td>Significant</td>
</tr>
<tr>
<td>2-way interactions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A x B</td>
<td>Not Significant</td>
<td>Not Significant</td>
<td>Not Significant</td>
</tr>
<tr>
<td>B x C</td>
<td>Significant</td>
<td>Not Significant</td>
<td>Not Significant</td>
</tr>
<tr>
<td>A x C</td>
<td>Not Significant</td>
<td>Significant</td>
<td>Not Significant</td>
</tr>
<tr>
<td>3-way interactions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A x B x C</td>
<td>Significant</td>
<td>Significant</td>
<td>Significant</td>
</tr>
</tbody>
</table>

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From the table 4.16, it is seen that, the Home Climate is the only single factor affecting all the dimensions of burnout. School climate factors are significant only in the case of Emotional Exhaustion and Personal Accomplishment. Further, personality factors are significant only in the case of Emotional Exhaustion and Depersonalization. In case of 2-way interactions it is observed that the joint effect of personality and home climate (B x C); and school climate and home climate (A x C) are found to be significant in respect of Emotional Exhaustion and Depersonalization respectively. But the 3-way interactions are found to be significant with respect to all three dimensions of burnout.

However, the effect of home climate seem to be not only the soul factor causing proneness to all the dimensions of burnout but its effect in the case of Personal Accomplishment seem to be the highest and its effect on Depersonalization and Personal Accomplishment appears to be lower. Hence, the home climate affects all the 3 dimensions of burnout.

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REFERENCES


