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Chapter – VI

Related Studies

6.7 Introduction

Related studies are the second phase of the present study. In the previous chapters, the process of construction and standardization of mental health scale for higher secondary school students have been described in detail. The value of coefficient of reliability and validity shows about usefulness and consistency of the mental health scale. After construction and standardization of the scale, the investigator directed his attention on the second phase of the present investigation.

In a first phase, variables are gender, area, cast (category), achievement (in S.S.C. examination), standard and stream (arts, commerce, science).

For the second phase of the present study, it was planned that the related studies be conducted to find out the relation of mental health scale with certain variable like,

1. Gender (Boys, Girls)
2. Area (Urban, Rural)
3. Standard (11th, 12th)
4. Cast/category (SC, ST, OBC, SEBC, OPEN)
5. Achievement (SSC Examination percentage)
6. Stream (Arts, Commerce, Science)
7. SES (High, Low)
8. Emotional Intelligence (High, Low)
(9) Anxiety (High, Low)

(10) Security-Insecurity

The related studies were conducted keeping in view the objectives described in the first chapter. The hypotheses that were formulated for this purpose of study were as follows:

Ho1 There will be no significant difference between mean score of mental health of boys and girls students of higher secondary school.

Ho2 There will be no significant difference between mean score of mental health of higher secondary students of urban and rural area.

Ho3 There will be no significant difference between mean score of mental health of higher secondary students studying in 11th and 12th standard.

Ho4 There will be no significant difference between mean score of mental health of higher secondary students having high and low achievement.

Ho5 There will be no significant difference between mean score of mental health of higher secondary students belonging to different streams. (Science, commerce and arts)

Ho6 There will be no significant difference between mean score of mental health of higher secondary students belonging to different cast/category. (OPEN, SC, ST, OBC/SEBC)

Ho7 There will be no significant difference between mean score of mental health of higher secondary students belonging to high and low SES.
There will be no significant difference between mean score of mental health of higher secondary students with high and low level of Emotional Intelligence.

There will be no significant difference between mean score of mental health of higher secondary students with high and low level of anxiety.

There will be no significant difference between mean score of mental health of higher secondary students having the feeling of security and insecurity.

### 6.8 Sample of related study

The sample for related study was students of higher secondary schools of Anand district in academic year 2006-07. BAPS high school, Bakrol and N. K. High school, petlad were taken as sample school. The random stratified sampling method was selected. The information of students of higher secondary schools, which were selected for the sample, was shown in Table – 6.1.

<table>
<thead>
<tr>
<th>Standard</th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
<td>Boys</td>
</tr>
<tr>
<td>Std. – 11</td>
<td>60</td>
<td>30</td>
<td>71</td>
</tr>
<tr>
<td>Std. – 12</td>
<td>15</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
<td>36</td>
<td>79</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>111</td>
<td>89</td>
</tr>
</tbody>
</table>
The investigator selected 200 students of higher secondary schools for related studies. Out of 200 students, 111 from urban area and 89 from rural area were selected.

### 6.9 Administration of mental health scale

For administering the different scale and test, principals of the schools were requested to give permission. The investigator visited above schools and allotted 5 days and administered mental health scale, SES, Emotional Intelligence, Security-Insecurity inventory and Anxiety scale.

Investigator administered mental health scale and other scales & inventory, himself. In the beginning introduction and instruction for the scale was given. The procedure to administer scale was followed rigorously. Between administration of each scale or inventory, 20 minutes break was given to students. First Mental health scale was administered, after that Dr. Pallavi Patel’s SES Scale, Emotional intelligence scale and Anxiety scale and Dr. Hitesh P. Patel’s Security-Insecurity scale were administrated.

#### 6.9.1 Study of mental health in relation to gender

For the study of mental health in relation to gender, investigator tested the hypothesis $H_{01}$.

$H_{01}$ There will be no significant difference between mean score of mental health of boys and girls students of higher secondary school.

The respective sample includes both boys and girls students. To test the above hypothesis No. of boys and girls, Mean, SD, $SE_D$ and t-
ratio of Mental Health scores of boys and girls students have been calculated, which is shown in Table – 6.2.

Table – 6.2

<table>
<thead>
<tr>
<th>Gender</th>
<th>No. of Students</th>
<th>Mean</th>
<th>SD</th>
<th>SE\textsubscript{D}</th>
<th>t-ratio</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>154</td>
<td>236.71</td>
<td>21.91</td>
<td>3.92</td>
<td>2.05*</td>
<td>Significant difference at 0.05 level</td>
</tr>
<tr>
<td>Girls</td>
<td>46</td>
<td>228.70</td>
<td>23.72</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table value of “t” significant at 0.05 level is 1.96
**Table value of “t” significant at 0.01 level is 2.58

From Table – 6.2, it can be seen that the obtained value of t-ratio between boys and girls of higher secondary school is 2.05. The obtained value of t-ratio does exceed the table value of ‘t’ 1.96 needed at 0.05 level of significance. Hence there is significant difference between the mean score of mental health of boys and girls students of higher secondary school. Consequently, the null hypothesis Ho\textsubscript{1} is rejected.

It can be concluded that the gender of students does effect to mental health of students.
6.9.2 Study of mental health in relation to area

For the study of mental health, investigator tested the hypothesis Ho₂.

\[
\text{Ho₂}\quad \text{There will be no significant difference between mean score of mental health of higher secondary students of urban and rural area.}
\]

The respective sample includes students of urban and rural area. To test the above hypothesis No. of students, Mean, SD, \(SE_D\) and t-ratio of mental health scores of students belonging to urban and rural area have been calculated which is shown in Table – 6.3.

**Table – 6.3**

<table>
<thead>
<tr>
<th>Area</th>
<th>No. of Students</th>
<th>Mean</th>
<th>SD</th>
<th>(SE_D)</th>
<th>t-ratio</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>111</td>
<td>236.85</td>
<td>22.06</td>
<td>3.21</td>
<td>1.38</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Rural</td>
<td>89</td>
<td>232.40</td>
<td>23.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table value of “t” significant at 0.05 level is 1.96
**Table value of “t” significant at 0.01 level is 2.58

From Table – 6.3, it can be seen that the obtained value of t-ratio between students of urban and rural area is 1.38. The obtained value of t-ratio does not exceed the table value of ‘t’ 1.96 needed at 0.05 level of significance. Hence there is no significant difference between the mean score of mental health of students of urban and rural area. Consequently, the null hypothesis Ho₂ is accepted.
It can be concluded that the area does not effect to mental health of students.

6.9.3 Study of mental health in relation to standard

For the study of effect of standard/class on mental health, investigator tested the hypothesis $H_0^3$.

$H_0^3$ There will be no significant difference between mean score of mental health of higher secondary students studying in 11$^{th}$ and 12$^{th}$ standard.

The respective sample includes Std.-11 and Std.-12 both. To test the above hypothesis No. of students, Mean, SD, SE$_D$ and t-ratio of mental health scores of students of Std.-11 and Std.-12 have been calculated, which is shown in Table – 6.4.

Table – 6.4

<table>
<thead>
<tr>
<th>Standard</th>
<th>No. of students</th>
<th>Mean</th>
<th>SD</th>
<th>SE$_D$</th>
<th>t-ratio</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Std.-11</td>
<td>166</td>
<td>241.39</td>
<td>17.55</td>
<td>3.17</td>
<td>12.11**</td>
<td>Significant difference at 0.01 level</td>
</tr>
<tr>
<td>Std.-12</td>
<td>34</td>
<td>203.03</td>
<td>16.67</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table value of “t” significant at 0.05 level is 1.96

**Table value of “t” significant at 0.01 level is 2.58
From Table – 6.4, it can be seen that the obtained value of t-ratio between students of Std.-11 and Std.-12 of higher secondary school is 12.11. The obtained value of t-ratio does exceed the table value of ‘t’ 2.58 needed at 0.01 level of significance. Hence there is significant difference between the mean score of mental health of Std.-11 and Std.-12 student of higher secondary school. Consequently, the null hypothesis H06 is rejected.

It can be concluded that the standard/class of students does effect to mental health of students.

6.9.4 Study of mental health in relation to achievement

The result (percentage) of the 10th standard (SSC board of Gujarat state) was considered as achievement. For the study of effect of achievement on mental health, investigator tested the hypothesis Ho4.

Ho4 There will be no significant difference between mean score of mental health of higher secondary students having high and low achievement.

The respective sample includes high and low achievement students. To test the above hypothesis No. of students, Mean, SD, SE_D and t-ratio of mental health scores of students of high and low achievement have been calculated which is shown in Table – 6.5.
Table – 6.5

No. of students, Mean, SD, SE_D and t-ratio of mental health scores of students of high and low achievement

<table>
<thead>
<tr>
<th>Achievement</th>
<th>No. of Students</th>
<th>Mean</th>
<th>SD</th>
<th>SE_D</th>
<th>t-ratio</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>152</td>
<td>235.24</td>
<td>23.08</td>
<td>3.55</td>
<td>0.43</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Low</td>
<td>48</td>
<td>233.71</td>
<td>20.93</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table value of “t” significant at 0.05 level is 1.96

**Table value of “t” significant at 0.01 level is 2.58

From Table – 6.5, it can be seen that the obtained value of t-ratio between students of high and low achievement is 0.43. The obtained value of t-ratio does not exceed the table value of ‘t’ 1.96 needed at 0.05 level of significance. Hence there is no significant difference between the mean score of mental health of students of high and low achievement. Consequently, the null hypothesis Ho_4 is accepted.

It can be concluded that the achievement does not effect to mental health of students.

6.9.5 Study of mental health in relation to stream (Science, commerce and arts))

For the study of effect of stream of students on mental health, investigator tested the hypothesis Ho_5.

Ho_5 There will be no significant difference between mean score of mental health of higher secondary students belonging to different streams. (Science, commerce and arts)
The respective sample includes students with different streams. The investigator acquired the data of different streams from the details filled by the students in the information page of the scale. To test the above hypothesis No. of students, Mean and SD of mental health scores of students from different streams have been calculated, which is shown in Table – 6.6.

Table – 6.6
No. of students, Mean and SD of mental health scores of students with different streams

<table>
<thead>
<tr>
<th>Stream</th>
<th>No. of Students</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>125</td>
<td>240.35</td>
<td>21.33</td>
</tr>
<tr>
<td>Commerce</td>
<td>45</td>
<td>236.73</td>
<td>17.93</td>
</tr>
<tr>
<td>Arts</td>
<td>30</td>
<td>209.23</td>
<td>15.42</td>
</tr>
</tbody>
</table>

Following Table – 6.7 show t-ratio including SE_D of scores on mental health of students from different streams.

Table – 6.7
t-ratio including SE_D of students scores from different streams

<table>
<thead>
<tr>
<th>Stream</th>
<th>Science (SE_D = 3.28)</th>
<th>Commerce</th>
<th>Arts (SE_D = 3.88)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>--</td>
<td>1.10</td>
<td>9.15** (SE_D = 3.40)</td>
</tr>
<tr>
<td>Commerce</td>
<td>1.10 (SE_D = 3.28)</td>
<td>--</td>
<td>7.08** (SE_D = 3.88)</td>
</tr>
<tr>
<td>Arts</td>
<td>9.15** (SE_D = 3.40)</td>
<td>7.08** (SE_D = 3.88)</td>
<td>--</td>
</tr>
</tbody>
</table>

*Table value of “t” significant at 0.05 level is 1.96
**Table value of “t” significant at 0.01 level is 2.58
From Table – 6.7, it can be seen that the obtained value of t-ratio between students of science and commerce streams of higher secondary school is 1.10. The obtained value of t-ratio between students of science and commerce does not exceed the table value of ‘t’ 1.96 needed at 0.05 level of significance. Hence there is no significant difference between the mean score of mental health of students of science and commerce stream of higher secondary school.

But, from Table – 6.7, it can be observed that the value of t-ratio between students of arts and commerce stream is 7.08 and t-ratio between students of arts and science stream is 9.15. The obtained value of t-ratio does exceed the table value of ‘t’ 1.96 needed at 0.05 level and 2.58 needed at 0.01 level of significance.

Hence there is significant difference between the mean score of mental health of student of arts and commerce stream. Also seems that there is significant difference between the mean score of mental health of student of arts and science stream. Consequently, the null hypothesis Ho5 is rejected.

It can be concluded that the different stream does effect to mental health of students.

**6.9.6 Study of mental health in relation to cast/category (SC, ST, OBC, OPEN)**

For the study of effect of cast/category of students on mental health, investigator tested the hypothesis Ho6.
$H_0_6$ There will be no significant difference between mean score of mental health of higher secondary students belonging to different cast/category. (OPEN, SC, ST, OBC/SEBC)

The respective sample includes students with different categories. To test the above hypothesis No. of students, Mean and SD of mental health scores of students from different category have been calculated, which is shown in Table – 6.8.

Table – 6.8

No. of students, Mean and SD of mental health scores of students with different categories

<table>
<thead>
<tr>
<th>Category</th>
<th>No. of Students</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC</td>
<td>15</td>
<td>236.33</td>
<td>16.68</td>
</tr>
<tr>
<td>ST</td>
<td>7</td>
<td>238.29</td>
<td>19.01</td>
</tr>
<tr>
<td>OBC</td>
<td>26</td>
<td>240.69</td>
<td>23.44</td>
</tr>
<tr>
<td>OPEN</td>
<td>152</td>
<td>233.57</td>
<td>22.92</td>
</tr>
</tbody>
</table>

Following Table – 6.9 show t-ratio including $SE_D$ of scores on mental health of students from different categories.
From Table – 6.9, it can be seen that the obtained value of t-ratio between students from different categories are between 0.23 to 0.69. The obtained value of t-ratio does not exceed the table value of ‘t’ 1.96 needed at 0.05 level of significance. Hence there is no significant difference between the mean score of mental health of higher secondary school students from different categories. Consequently, the null hypothesis Ho₆ is accepted.

It can be concluded that the cast/category of students does not effect to mental health of students.

### 6.9.7 Study of mental health in relation to SES

For the study of effect of SES on mental health, investigator tested the hypothesis Ho₇.
**H₀₇** There will be no significant difference between mean score of mental health of higher secondary students belonging to high and low SES.

The respective sample includes both high and low SES students. To test the above hypothesis No. of students, Mean, SD, SEₐ and t-ratio of mental Health scores of students belonging to high and low SES have been calculated which is shown in Table – 6.10.

**Table – 6.10**

<table>
<thead>
<tr>
<th>SES</th>
<th>No. of Students</th>
<th>Mean</th>
<th>SD</th>
<th>SEₐ</th>
<th>t-ratio</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>132</td>
<td>235.86</td>
<td>24.40</td>
<td>352</td>
<td>1.04</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Low</td>
<td>68</td>
<td>239.53</td>
<td>23.12</td>
<td><strong>Table value of “t” significant at 0.05 level is 1.96</strong></td>
<td><strong>Table value of “t” significant at 0.01 level is 2.58</strong></td>
<td></td>
</tr>
</tbody>
</table>

From Table – 6.10, it can be seen that the obtained value of t-ratio between students belonging to high and low SES is 1.04. The obtained value of t-ratio does not exceed the table value of ‘t’ 1.96 needed at 0.05 level of significance. Hence there is no significant difference between the mean score of mental health of students belonging to high and low SES. Consequently, the null hypothesis H₀₇ is accepted.

It can be concluded that the SES does not effect to mental health of students.
6.9.8 Study of mental health in relation to emotional intelligence

For the study of effect of emotional intelligence on mental health, investigator tested the hypothesis $H_{o8}$.

$H_{o8}$ There will be no significant difference between mean score of mental health of higher secondary students with high and low level of Emotional Intelligence.

The respective sample includes both high and low emotional intelligence students. To test the above hypothesis No. of students, Mean, SD, $SE_D$ and t-ratio of mental health scores of students having high and low emotional intelligence have been calculated, which is shown in Table – 6.11.

Table – 6.11

<table>
<thead>
<tr>
<th>Emotional Intelligence</th>
<th>No. of Students</th>
<th>Mean</th>
<th>SD</th>
<th>$SE_D$</th>
<th>t-ratio</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>153</td>
<td>241.74</td>
<td>22.61</td>
<td>3.73</td>
<td>5.28**</td>
<td>Significant difference at 0.01 level</td>
</tr>
<tr>
<td>Low</td>
<td>47</td>
<td>222.04</td>
<td>22.32</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table value of “t” significant at 0.05 level is 1.96

**Table value of “t” significant at 0.01 level is 2.58

From Table – 6.11, it can be seen that the obtained value of t-ratio between students having high and low emotional intelligence is 5.28.
The obtained value of t-ratio does exceed the table value of ‘t’ 2.58 needed at 0.01 level of significance. Hence there is significant difference between the mean score of mental health of higher secondary school students having high and low emotional intelligence. Consequently, the null hypothesis Ho₈ is rejected.

It can be concluded that the Emotional Intelligence of students does effect to mental health of students.

6.4.9 Study of mental health in relation to anxiety

For the study of effect of anxiety on mental health, investigator tested the hypothesis Ho₉.

Ho₉  There will be no significant difference between mean score of mental health of higher secondary students with high and low level of anxiety.

The respective sample includes students having high and low anxiety both. To test the above hypothesis No. of students, Mean, SD, SEₐ and t-ratio of mental health scores of students having high and low anxiety have been calculated, which is shown in Table – 6.12.

<table>
<thead>
<tr>
<th>Anxiety</th>
<th>No. of Students</th>
<th>Mean</th>
<th>SD</th>
<th>SEₐ</th>
<th>t-ratio</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>108</td>
<td>225.54</td>
<td>21.84</td>
<td>2.88</td>
<td>8.75**</td>
<td>Significant difference at 0.01 level</td>
</tr>
<tr>
<td>Low</td>
<td>92</td>
<td>250.70</td>
<td>18.82</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table value of “t” significant at 0.05 level is 1.96

**Table value of “t” significant at 0.01 level is 2.58
From Table – 6.12, it can be seen that the obtained value of t-ratio between students having high and low anxiety is 8.75. The obtained value of t-ratio does exceed the table value of ‘t’ 2.58 needed at 0.01 level of significance. Hence there is significant difference between the mean score of mental health of higher secondary school students having high and low anxiety. Consequently, the null hypothesis Ho9 is rejected.

It can be concluded that the anxiety of students does effect to mental health of students.

6.3.10 Study of mental health in relation to security-insecurity

For the study of effect of security-insecurity on mental health, investigator tested the hypothesis Ho10.

Ho10 There will be no significant difference between mean score of mental health of higher secondary students having the feeling of security and insecurity.

The respective sample includes both students feeling security and insecurity. To test the above hypothesis No. of students, Mean, SD, SE_D and t-ratio of mental health scores of students feeling security and insecurity have been calculated, which is shown in Table – 6.13.
Table – 6.13

No. of students, Mean, SD, SE_D and t-ratio of mental health scores of students feeling security and insecurity

<table>
<thead>
<tr>
<th>Feeling of security – insecurity</th>
<th>No. of Students</th>
<th>Mean</th>
<th>SD</th>
<th>SE_D</th>
<th>t-ratio</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
<td>110</td>
<td>245.63</td>
<td>20.82</td>
<td>3.02</td>
<td>5.85**</td>
<td>Significant difference at 0.01 level</td>
</tr>
<tr>
<td>Insecurity</td>
<td>90</td>
<td>227.96</td>
<td>21.63</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table value of “t” significant at 0.05 level is 1.96

**Table value of “t” significant at 0.01 level is 2.58

From Table – 6.13, it can be seen that the obtained value of t-ratio between students feeling security and insecurity is 5.85. The obtained value of t-ratio does exceed the table value of ‘t’ 2.58 needed at 0.01 level of significance. Hence there is significant difference between the mean score of mental health of higher secondary school students feeling security and insecurity. Consequently, the null hypothesis Ho_10 is rejected.

It can be concluded that the feeling of security-insecurity of students does effect to mental health of students.

6.10 Conclusion

From the correlated studies, the variables were identified and the relationship of mental health score to different groups i.e. gender (Boys, Girls), area (Urban, Rural), standard (11th, 12th), achievement
(in SSC Examination), stream (Arts, Commerce, Science), cast /category (SC, ST, OBC, SEBC, OPEN), SES (High, Low), Emotional Intelligence (High, Low), Anxiety (High, Low) and Security-Insecurity were observed. The mean (M) and standard deviation (SD) of mental health score were calculated. After that, the t-test was applied for significant difference of mean.

The following conclusions were drawn from above analysis and discussion.

1.9.11 There was a significant difference between mean score of mental health of boys and girls students of higher secondary school.

1.9.12 There was no significant difference between mean score of mental health of higher secondary students of urban and rural area.

1.9.13 There was a significant difference between mean score of mental health of higher secondary students studying in 11th and 12th standard.

1.9.14 There was no significant difference between mean score of mental health of higher secondary students having high and low achievement.

1.9.15 There was a significant difference between mean score of mental health of higher secondary students belonging to science, commerce and arts stream.

1.9.16 There was no significant difference between mean score of mental health of higher secondary students belonging to different cast (category).
1.9.17 There was no significant difference between mean score of mental health of higher secondary students belonging to high and low SES.

1.9.18 There was a significant difference between mean score of mental health of higher secondary students with high and low level of Emotional Intelligence.

1.9.19 There was a significant difference between mean score of mental health of higher secondary students with high and low level of anxiety.

1.9.20 There was a significant difference between mean score of mental health of higher secondary students having the feeling of security and insecurity.

In the present chapter investigator tested hypotheses. The summary of whole research study is discussed in the next chapter.