A research work is completely satisfied with collecting and classifying data. In educational research, the step that comes next to the collection of data is that of its analysis. Analysis of data means studying the tabulated material in order to make it meaningful. It involves breaking down the existing complex factors into simple facts and putting the parts together, making new arrangements for the purpose of interpretation. The main purpose of collection of data is to draw some inferences and conclusions. This can be done by systematically organizing the data collected. According to Oliver, “When data has been obtained, it is necessary to organize it for interpretation and presentation.

The analysis and interpretation of data has been undertaken in respect of hypotheses that have been formulated in the study. Thus, this chapter presents the analysis, interpretation and discussion of results hypothesis wise:-

**Hypothesis-1.0**

The hypothesis one states “There is no significant difference between extrovert and introvert volleyball players with regard to their stress”.

This hypothesis has been tested by applying 't'-test of significance. The following table shows result on account of testing this hypothesis by using 't'-test.
Table-1.0
Significance of difference of mean Extrovert and Introvert volley ball players on stress

<table>
<thead>
<tr>
<th>Personality Dimension</th>
<th>No. of Players (N)</th>
<th>Mean ()</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert t</td>
<td>310</td>
<td>100.27</td>
<td>28.64</td>
<td>.6266</td>
<td>3.10</td>
<td>Significant</td>
</tr>
<tr>
<td>Introvert t</td>
<td>290</td>
<td>107.68</td>
<td>29.86</td>
<td>.7534</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated ‘t’value = 3.10

Standard error of differences = 2.388

0.05 level = 1.96
df =598

0.01 level =2.58

The above results illustrates that the calculated ‘t’value is 3.10, which is greater than the table value hence, the null hypothesis is rejected at both the levels of significance. It means that both the types of volleyball players i.e. extrovert & introvert differ significantly in their stress.

Conclusion

Introvert volleyball players are more prone to stress than to
extrovert volleyball players.

**Discussion**

This may be due to the reason that the introvert players by their nature do not solicit enough co-operation of their team members and senior players/fellow at the time of playing in team. They do not enjoy cooperation and support from the team managers, coaches, senior players and team members who by their knowledge of some practical tact and skills about the game can help in taking important decision at the time of tournament/playing. Introvert players are by nature more reserved, self-centered, do not mix up with people and do not take any interest in sharing their thinking with any one, but remain more under stress of being successful in games. Hence, do not get enough cooperation of their team members and senior players/fellow at the time of playing in team and so get more tensed easily, which affects their physical and mental health.

The first hypothesis was further studied in terms of stress components hence, the component wise sub-hypotheses were formulated and tested.

**Sub-Hypothesis-1.1**

This hypothesis reads as "**There is no significant difference between extrovert ant introvert volleyball players on the frustration component of stress**".

The Sub-Hypothesis has been tested by using t-test. The result has been given in the table below:

**Table 1.1**

Significance of difference of means between Extrovert and Introvert volley
ball players with regard to their ‘frustration’ component of stress

<table>
<thead>
<tr>
<th>Personality Dimension</th>
<th>No. of Players (N)</th>
<th>Mean (μ)</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert t</td>
<td>310</td>
<td>39.95</td>
<td>10.07</td>
<td>0.591</td>
<td>2.966</td>
<td>Significant</td>
</tr>
<tr>
<td>Introvert t</td>
<td>290</td>
<td>42.49</td>
<td>10.85</td>
<td>0.616</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated ‘t’ value = 2.966  

Standard error of difference = 0.856

1.96 at 0.05 level of confidence

Table value

2.58 at 0.01 level of confidence

The above results illustrate that the obtained ‘t’ value i.e. 2.966 has come out to be significant at both the levels of confidence. Hence, the null hypothesis is rejected. Thus, the rejection of hypothesis leads to infer that the ‘extrovert’ and ‘introvert’ volleyball players differ significantly in their manifestation to ‘frustration’ component of stress.

**Conclusion**

The introvert volleyball players exhibit more 'frustration' than the extrovert players while playing.

**Discussion**

The psychological manifestations of stress and frustration leads to withdrawal from difficult situation fear indecisiveness and poor initiation.
He/she lives in the state of perpetual insecurity and is fearful of the team manager or the sports officer, or the coach or the senior members of the team. The expected level of performance and the multiplying expectations of the parents, society, team manager and coach also disturb the introvert players. Introvert players as per their nature are generally submissive, scrupulous and get easily worried, therefore, their perception of situation during playing becomes colored by weak thinking and fearful anticipation of poor perception. Such players are not able to express their problems, difficulties and do not interact openly with his/her team members and therefore loose their grip over success whereas the other counter parts figure with more confident performance to win and commit to multiple expectations from various areas. There are always more chances of better adjustment and better performance by extrovert volleyball players as against the introvert volleyball players who suffer with frustration due to their personality features.

**Sub-Hypothesis 1.2**

The sub-hypothesis reads, as “**There is no significant difference between extrovert and introvert volleyball players on the conflict component of stress**”.

This hypothesis has been tested by using t-test of independence. The result has been reported in the table given below:

**Table 1.2**

| Significance of difference of means of extrovert and introvert volleyball players on 'conflict' component of stress |
|---|---|---|---|---|
| Personal | No. of Players | Mean () | S.D. | Standard Error | t-value | Significance |

...
<table>
<thead>
<tr>
<th>Dimension</th>
<th>(N)</th>
<th>Mean</th>
<th>Standard Error</th>
<th>t-value</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert</td>
<td>310</td>
<td>14.64</td>
<td>5.97</td>
<td>2.08</td>
<td>Significant at 0.05 level</td>
</tr>
<tr>
<td>Introvert</td>
<td>290</td>
<td>15.68</td>
<td>6.24</td>
<td>0.354</td>
<td></td>
</tr>
</tbody>
</table>

Calculated ‘t’value = 2.08  
\[ df = 598 \]

Standard error of difference = 0.499  
1.96 at 0.05 level of confidence  
Table value 2.58 at 0.01 level of confidence

The above table shows that ‘t’ value for conflict component of stress is 2.08 which is statistically significant at 0.05 level of significance. It means that extrovert and introvert volleyball players differ significantly at 0.05 level of significance, but do not differ statistically significant at 0.01 level of significance with regard to their ‘conflict’ component of stress. Thus, it may be interpreted that the extrovert and introvert volleyball players show varying degree of conflict. The mean value on conflict in case of introvert players is more than that of extrovert players mean conflict value. It may therefore, be inferred that introvert players remain more in conflict during playing than extrovert players. However, the scores for extrovert & introvert volleyball players show that introvert volleyball players are more susceptible to 'conflict' as compared to extrovert volleyball players.

**Conclusion**
Introvert volleyball players are more prone to ‘conflict’ than to extrovert volleyball players.

Discussion

The players always face internal and external threats and have expectations for winning the game. Right from induction of players into the team to finally playing the game the players have to undergo different processes which expect them to be very skillful, vigilant, pertinent, and confident so that they may play successfully. Varying personality traits of players interact with their ability of initiation, decision making and temperament during any activity. As such the extrovert players by their nature are not dependent much on team managers and coaches etc. and try to perform against the impediments what so ever may occur during playing a game and do not get much stressed as compared to introvert volleyball players. Extrovert players enjoy their game the introvert players on the contrary swing between the quality of performance as per his/her desire and remain mostly in the conflicting state of mind and that disturbs the mental adaptability resulting in poor performance.

Sub-Hypothesis 1.3

This Sub-Hypothesis has been stated, as **There is no significant difference between extrovert and introvert volleyball players on the 'anxiety' component of stress.**

This hypothesis has been tested by using t-test of significance. The result has been reported in the table given below:-

**Table 1.3**

Significance of difference of means between extrovert and introvert volleyball players with regard to anxiety component of stress
The above table shows that ‘t’ value for ‘anxiety’ component of stress is 4.37 which is statistically significant at both the levels of significance. It means that extrovert and introvert volleyball players differ significantly with regard to their ‘anxiety’ component of stress. Thus, it may be interpreted that the extrovert and introvert volleyball players differ in the degree of magnitude of ‘anxiety’ components of stress. The mean value of conflict (29.23) is higher for introvert volleyball players than that of extrovert players. Hence, the introvert volleyball players show more anxiety during playing a game as compared to extrovert volleyball players.

Conclusion
Introvert volleyball players show more 'anxiety' component of stress as compared to extrovert volleyball players.

**Discussion**

The above finding is substantiated by the findings of a study conducted by Cannaughton and Hanton (2002) which entails. Retrospective explanations of the relationship between anxiety symptoms, self confidence, personality and performance. They found that extrovert performers have less anxiety, in comparison to introvert players at the time of performing the game.

Therefore, the generalization made by this research is justifiable, naturally reasonable and logical. Introverts are bound to suffer with anxiety. Sharing and mixing with people melts the mist of resistance within the person and he looks at things with positive bent of mind, success allure such people. In this study also those players who have demonstrated anxiety prone behaviour have not performed well.

**Sub-Hypothesis 1.4**

This Sub-Hypothesis has been stated, as *There is no significant difference between extrovert and introvert volleyball players on 'pressure' component of stress.*

This hypothesis has been tested by using t-test of independence. The result has been reported in the table given below:-

**Table 1.4**

<table>
<thead>
<tr>
<th>Personal No.</th>
<th>Mean ((\mu))</th>
<th>S.D. (s)</th>
<th>Standard t-value</th>
<th>Significance</th>
</tr>
</thead>
</table>


**Players**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Extrovert</th>
<th>Introvert</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>310</td>
<td>290</td>
</tr>
<tr>
<td>Mean</td>
<td>22.38</td>
<td>23.80</td>
</tr>
<tr>
<td>Standard Error of Mean</td>
<td>.84</td>
<td>.31</td>
</tr>
<tr>
<td>p-value</td>
<td>.519</td>
<td>.528</td>
</tr>
<tr>
<td>t-value</td>
<td>1.91</td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>598</td>
<td></td>
</tr>
</tbody>
</table>

Calculated ‘t’ value = 1.91
df = 598

Standard error of difference = 0.742

1.96 at 0.05 level of confidence

Table value

2.58 at 0.01 level of confidence

The above table illustrates that the ‘t’ value for ‘pressure’ component of stress is 1.91, which is not statistically significant at 0.05 level of significance. It means that extrovert and introvert volleyball players do not differ significantly with regard to their ‘pressure’ component of stress. Thus, it may be interpreted that the extrovert and introvert volleyball players share nearly the same degree of magnitude of pressure component of stress as evidenced by this study. However, the mean scores for extrovert & introvert volleyball players, show that introvert volleyball players suffer comparatively more pressure.

**Conclusion**

Introvert volleyball players remain more in ‘pressure’ component as compared to extrovert volleyball players.
Discussion

The context from where this finding has emerged speaks of inbuilt requirements, expectations, skill and quality decision making during playing a game like volleyball. The nature of a game is such that these things automatically structure the environment at the ground which is a challenge for every player to accommodate with these things to get success. Introvert are not by temperament social, show resistance to any initiation and change, do not modify their thinking by others observation and interaction. It is well established psychological phenomena that sharing reduces the level of tension and pressure of work. Introvert players due to their nature easily come under psychological pressure of work, and fear whether they will be successful or not and that causes stress as a whole with pressure as a potent contributing factor.

Hypothesis –.0

The hypothesis two reads as There is no significant difference between extrovert and introvert volleyball players with regard to their adjustment.

This hypothesis has been tested by applying t-test. There are five areas of adjustment like home, health, social, emotional, and educational that are considered in the inventory, that has been used in this study (Sinha and Singh).

According to the adjustment inventory used in the study, the scores of players on adjustment inventory have been interpreted according to the norms mentioned in its manual, i.e. higher scores on inventory has been taken to indicate poor adjustment and lower scores on inventory indicate better adjustment. Therefore, adjustment as a whole and interms of it’s
sub-components (area of adjustment) is given below:

**Table 2.0**

*Significance of mean difference between extrovert and introvert volleyball players with regard to total adjustment*

<table>
<thead>
<tr>
<th>Personality Dimension</th>
<th>No. of Players (N)</th>
<th>Mean ()</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert</td>
<td>310</td>
<td>.77</td>
<td>.87</td>
<td>.814</td>
<td>3.24</td>
<td>Significant</td>
</tr>
<tr>
<td>Introvert</td>
<td>290</td>
<td>.73</td>
<td>.94</td>
<td>.905</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculate ‘t’ value = 3.24  

Standard error of difference = 1.22

1.96 at 0.05 level of confidence  

Table value  

2.58 at 0.01 level of confidence

The above result illustrates that the ‘t’ value has come out to be 3.24, which is statistically significant at both the levels of significance. Hence, the null hypothesis is rejected. Thus, it can be inferred from the above results that the extrovert and introvert volleyball players differ significantly in their adjustment. Mean value for introvert players on adjustment has come out to be more (31.73) than the extrovert players. Inference may, therefore, be drawn that the extrovert players are very well
adjusted.

**Conclusion**

Extrovert players of volleyball are better adjusted as compared to introvert volleyball players.

**Discussion**

The results seem to be logical in the context that because extrovert players are by temperament more social, open to discussion and share the positive attitude of mutual acceptability and sensitivity, hence are more accommodating and adjusting. On the contrary introvert players are expected not to be interacting and sharing with other fellow players, hence, remain to themselves and consequently find difficulty in making adjustment. Obviously, the personality characteristics come into play while playing any game and reflect behavioural reservations also. Thus, even though playing the same game efficiently they differ in their adjustment by virtue of their personality trait.

Personality characteristics will intervene in the smooth functioning of players, their behaviours, thinking, performance, interpretation of the perception and interaction etc., irrespective of their being either extrovert or introvert.

This hypothesis has been further studied in respect of its sub hypothesis pertaining to the components of adjustment.

**Sub-Hypothesis 2.1**

The Sub-Hypothesis reads as **There is no significant difference between extrovert and introvert volleyball players with regard to**
their ‘home’ adjustment.

This hypothesis was tested by applying 't'-test of significance. The result has been reported in the following table:

Table 2.1

Significance of mean difference between extrovert and introvert volleyball players with regard to ‘Home’, adjustment

<table>
<thead>
<tr>
<th>Personality Dimension</th>
<th>No. of Players (N)</th>
<th>Mean (μ)</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert t</td>
<td>310</td>
<td>.06</td>
<td>2.90</td>
<td>0.170</td>
<td>3.07</td>
<td>Significant</td>
</tr>
<tr>
<td>Introvert t</td>
<td>290</td>
<td>9.86</td>
<td>3.52</td>
<td>.199</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated ‘t’value = 3.07  
df = 598

Standard error of difference = 0.264

1.96 at 0.05 level of confidence

Table value

2.58 at 0.01 level of confidence

The above results illustrates that ‘t’value has come out to be 3.07,
which is statistically significant at both the levels of significance. Hence, the null hypothesis is rejected. Thus, it can be inferred that the extrovert and introvert volleyball players differ significantly in their ‘home’ adjustment.

**Conclusion**

Extrovert volleyball players are better on ‘Home’ adjustment as compared to introvert volleyball players.

**Discussion**

The above finding is substantiated by the finding of a study conducted by Gill and Sharma (2004) which entails that “A comparative study of adjustment, economic status and values of senior secondary school, teachers with regard to their personality type.” They found that extrovert and introvert senior secondary school teachers differ significantly in their ‘Home’ adjustment. The statistical analysis of the data disclosed that home adjustment of senior secondary school teacher was positively related to their personality characteristics. In short, extrovert teachers are well adjusted as compared to introvert teachers.

Therefore, the generalization made by the investigator appears to be justifiable, logical, natural and reasonable. The extrovert players are more social and react readily to influence of his/her environment by their interactive behaviour. In order to adjust in life Extroverts prefer to influence the environment for their own benefits, to meet the environmental demands effectively. They are carefree, easy going, joyful and enjoy life. On the contrary, introvert players are not much expressive and not able to open up their inner-self. They keep their feelings under closed control, seldom behave in an unsatisfactory manner, and does
loose their temper easily. Such people find it difficult to make adjustment in all the situations may be home.

**Sub-Hypothesis 2.2**

The Sub-Hypothesis reads as: **There is no significant difference between extrovert and introvert volleyball players with regard to their ‘health’adjustment.**

This hypothesis was tested by applying t-test of significance. The result has been reported in the following table:

**Table 2.2**

<table>
<thead>
<tr>
<th>Personal Dimension</th>
<th>No. of Players (N)</th>
<th>Mean ()</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert</td>
<td>310</td>
<td>.56</td>
<td>.81</td>
<td>.223</td>
<td>1.93</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Introvert</td>
<td>290</td>
<td>11.18</td>
<td>.97</td>
<td>.225</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Calculated ‘t’ value = 1.93
df = 598

Standard error of difference = 0.318

1.96 at 0.05 level of confidence
Table value
2.58 at 0.01 level of confidence

The above result illustrates that the ‘t’ value is 1.93, which is smaller than the table value, therefore, the null hypothesis is not rejected at both the levels of significance. Thus, it can be inferred that the extrovert and introvert volleyball players do not differ significantly in their ‘health’ adjustment. However, the mean value in case of extrovert and introvert volleyball players show that the extrovert players have mean value on ‘health’ adjustment comparatively lesser than the introvert volleyball players. There is a difference in mean scores but it is not statistically significant. This means that the introvert and extrovert personality dimensions relatively do not influence the ‘health’ adjustment.

**Conclusion**

Extrovert volleyball players have better 'health' adjustment as compared to introvert volleyball players.

**Discussion**

Health is such a phenomenon about which every one feel concerned and adopt all those measures and practices which help in maintaining good health because it is required for every game.
All the players therefore, take lot of care to keep themselves healthy otherwise they may loose their position. The player, either belonging to extrovert or introvert category of personality, naturally remain, very conscious about his health. There are many other factors which destructively influence the health besides the personality type.

The above finding may be supported by the similar study conducted by Powel (1947) It was entitled "Relationship between personality and adjustment of athletes/players in various fields of life." It found high significant relationship between 'health' adjustment and personality of players/athletes.

**Sub-Hypothesis 2.3**

The Sub-Hypothesis is stated as: **There is no significant difference between extrovert and introvert volleyball players with regard to their ‘Social’, adjustment.**

This hypothesis was tested by applying t-test of significance. The result has been reported in the following table:

**Table 2.3**

<table>
<thead>
<tr>
<th>Personality Dimension</th>
<th>No. of Players (N)</th>
<th>Mean (μ)</th>
<th>S.D.</th>
<th>Standard Error of Mean (SE)</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extrovert</td>
<td>Introvert</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----------</td>
<td>-----------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>9.65</td>
<td>0.79</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>0.169</td>
<td>0.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>4.60</td>
<td>2.58</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>5.98</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above result illustrates that the 't' value has come out to be 4.60, which is significant at both the levels of significance. Hence, the null hypothesis is rejected. Thus, it can be inferred that the extrovert and introvert volleyball players differ significantly in their 'social' adjustment. This leads to the conclusion that the personality dimensions influence the 'social aspect of adjustment.'

**Conclusion**

Extrovert volleyball players have been found to be having good 'social' adjustment in comparison to introvert volleyball players.

**Discussion**

It is the personality of a person which characterizes the cognitive as well as non-cognitive traits. These traits interplay with adjustment in any situation. The extrovert trait is such a source of traits that encourage the articulation of the extrovert characteristics in a particular environment.
and situation may it be home or any other situation relating to management of emotions, consciousness, social and educational. The areas which are of human interaction need a person to have healthy perspective of a situation, interactive perceptions of the relationships, hierarchy of value systems, positive attitude, maintaining emotional maturity in accepting the challenges of conflicting situations. As compared to introvert volleyball players, extrovert players are likely to have perceptual strength of the process of adaptability and adaptation which are perennial to adjustment. Introvert volleyball players resist from facing challenges being successful or unsuccessful. Extrovert players are more socially interactive hence get success because of his/her nature.

**Sub-Hypothesis 2.4**

The Sub-Hypothesis is stated as **There is no significant difference between extrovert and introvert volleyball players with regard to their ‘emotional’ adjustment.**

This hypothesis was tested by applying t-test of significance. The result has been reported in the following table:

Table 2.4
Significance of means difference between extrovert and introvert volleyball players with regard to ‘Emotional’ adjustment.

<table>
<thead>
<tr>
<th>Personality Dimension</th>
<th>No. of Players (N)</th>
<th>Mean ()</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert t</td>
<td>310</td>
<td>11.35</td>
<td>.02</td>
<td>.177</td>
<td>5.77</td>
<td>Significant</td>
</tr>
<tr>
<td>Introvert t</td>
<td>290</td>
<td>.97</td>
<td>.78</td>
<td>.214</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated ‘t’value = 5.77  
\[ \text{df} = 598 \]

Standard error of difference = 0.281  
1.96 at 0.05 level of confidence  
Table value  
2.58 at 0.01 level of confidence  

It is clear from the above result that the ‘t’value for 'Emotional' area of adjustment has come out to be 5.77, which is highly significant at both the levels of significance. Hence, the null hypothesis is rejected at both the levels of confidence. Thus, it can be inferred that the extrovert and introvert volleyball players differ significantly in their 'emotional' adjustment.

**Conclusion**

Extrovert volleyball players have shown better ‘Emotional’ adjustment as compared to introvert volleyball players.
**Discussion**

Therefore, the inference drawn by the researcher is self-explanatory. Extrovert players are open minded, free from rigidity and share the positive attitude of mutual acceptability and sociability hence, they behave in a more friendly manner and do not lose their temperament easily. On the contrary introvert players are quite, reserved and accepted as not to be interacting and sharing with the members of society openly hence, remain to themselves and consequently find difficulty in making ‘emotional adjustment. Obviously, the personality characteristics play important role in managing their cognition and emotions.

The above finding is very well supported by the finding's of a similar study conducted by Siddhu and Singh (1974) at N.S. NIS Patiala Punjab. Which entails that the "A comparative study of adjustment of players and non-players between 19-26 years of age with regard to their personality and game." It found that extrovert players have high positive correlation between personality type and emotional adjustment in comparison to introvert volleyball players in their emotional adjustment and on personality type, players and non-players significantly differ on 'emotional' adjustment.

**Sub-Hypothesis 2.5**

The Sub-Hypothesis reads as **There is no significant difference between extrovert and introvert volleyball players with regard to their ‘Educational’ adjustment.**

This hypothesis was tested by applying t-test of significance. The result has been reported in the following table:
Table 2.5
Significance of means difference between extrovert and introvert volleyball players with regard to ‘Educational’ adjustment

<table>
<thead>
<tr>
<th>Personal Dimension</th>
<th>No. of Players (N)</th>
<th>Mean ()</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert</td>
<td>310</td>
<td>8.61</td>
<td>.56</td>
<td>.150</td>
<td>5.45</td>
<td>Significant</td>
</tr>
<tr>
<td>Introvert</td>
<td>290</td>
<td>.77</td>
<td>.88</td>
<td>.163</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated ‘t’value = 5.45  
Standard error of difference = 0.223

1.96 at 0.05 level of confidence  
Table value  
2.58 at 0.01 level of confidence

The above result illustrates that the ‘t’value has come out to be 5.45, which is highly significant at both the levels of confidence. Hence, the null hypothesis is rejected. Thus, it can be inferred that the extrovert and introvert volleyball players differ significantly in their ‘educational’
adjustment.

**Conclusion**

Extrovert volleyball players have been found to have good ‘Educational’ adjustment in comparison to introvert volleyball players.

**Discussion**

Adjustment process is enriched by the quality of mind and experience that also influences individual's mind and experience and further individual’s capacity to learn. Extrovert players are better adjusted hence, show more aptness in picking up ideas, behaviour and educational experiences. Such a conclusion is tenable in this context.

**Hypothesis – 0**

This hypothesis has been stated as **There is no significant difference between extrovert and introvert volleyball players with regard to their general motor ability.**

This hypothesis has been tested by applying t-test because of the nature of the data obtained in the study. There are nine components of general motor ability like Speed, Agility, Arm and Shoulder Strength, Leg Strength, Balance, Muscular Endurance, Flexibility, Right Hand-Eye Co-ordination and Left Hand-Eye Co-ordination. Therefore, all the nine 't'-test values for each components of general motor ability separately have been calculated and presented in the table given on next page:
<table>
<thead>
<tr>
<th>Components</th>
<th>Dimension of Players</th>
<th>N</th>
<th>Mean ()</th>
<th>S.D.</th>
<th>SEM</th>
<th>S.E.D.</th>
<th>‘t’ value</th>
<th>Significant Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>Extrovert</td>
<td>310</td>
<td>7.98</td>
<td>1.78</td>
<td>0.101</td>
<td>0.143</td>
<td>1.82</td>
<td>Not sig.</td>
</tr>
<tr>
<td></td>
<td>Introvert</td>
<td>290</td>
<td>7.72</td>
<td>1.71</td>
<td>0.100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Extrovert</td>
<td>310</td>
<td>11.18</td>
<td>2.52</td>
<td>0.143</td>
<td>0.194</td>
<td>1.4945</td>
<td>Not sig.</td>
</tr>
<tr>
<td></td>
<td>Introvert</td>
<td>290</td>
<td>10.89</td>
<td>2.21</td>
<td>0.129</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agility</td>
<td>Extrovert</td>
<td>310</td>
<td>16.45</td>
<td>4.46</td>
<td>0.253</td>
<td>0.357</td>
<td>1.623</td>
<td>Not Sig.</td>
</tr>
<tr>
<td></td>
<td>Introvert</td>
<td>290</td>
<td>15.87</td>
<td>4.28</td>
<td>0.251</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arm and Shoulder Strength</td>
<td>Extrovert</td>
<td>310</td>
<td>189.06</td>
<td>45.16</td>
<td>2.56</td>
<td>3.71</td>
<td>1.055</td>
<td>Not sig.</td>
</tr>
<tr>
<td></td>
<td>Introvert</td>
<td>290</td>
<td>185.14</td>
<td>45.76</td>
<td>2.68</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leg Strength</td>
<td>Extrovert</td>
<td>310</td>
<td>72.28</td>
<td>19.10</td>
<td>1.08</td>
<td>1.445</td>
<td>1.155</td>
<td>Not sig.</td>
</tr>
<tr>
<td></td>
<td>Introvert</td>
<td>290</td>
<td>70.61</td>
<td>16.04</td>
<td>0.94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balance</td>
<td>Extrovert</td>
<td>310</td>
<td>33.38</td>
<td>6.63</td>
<td>0.376</td>
<td>0.52</td>
<td>1.691</td>
<td>Not sig.</td>
</tr>
<tr>
<td></td>
<td>Introvert</td>
<td>290</td>
<td>32.50</td>
<td>6.08</td>
<td>0.357</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Endurance

<table>
<thead>
<tr>
<th></th>
<th>Extrovert</th>
<th>Introvert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert</td>
<td>29.64</td>
<td>6.84</td>
</tr>
<tr>
<td>Introvert</td>
<td>28.86</td>
<td>6.52</td>
</tr>
</tbody>
</table>

Flexibility

<table>
<thead>
<tr>
<th></th>
<th>Extrovert</th>
<th>Introvert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert</td>
<td>4.25</td>
<td>1.35</td>
</tr>
<tr>
<td>Introvert</td>
<td>3.76</td>
<td>1.28</td>
</tr>
</tbody>
</table>

Right Hand-eye Coordination

<table>
<thead>
<tr>
<th></th>
<th>Extrovert</th>
<th>Introvert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert</td>
<td>5.12</td>
<td>1.62</td>
</tr>
<tr>
<td>Introvert</td>
<td>5.43</td>
<td>1.43</td>
</tr>
</tbody>
</table>

* Significant at 0.05 level of confidence

The third hypothesis was further studied in terms of its components hence, the components wise hypotheses were formulated and tested.

**Sub-Hypothesis 3.1**

The sub-hypothesis reads as: **There is no significant difference between extrovert and introvert volleyball players with regard to 'Speed' component of general motor ability.**
This hypothesis was tested by applying t-test of significance. The result has been reported in the following table:

<table>
<thead>
<tr>
<th>Personal</th>
<th>No. of Players</th>
<th>Mean ((\bar{x}))</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert</td>
<td>310</td>
<td>7.98</td>
<td>1.78</td>
<td>0.101</td>
<td>1.82</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Introvert</td>
<td>290</td>
<td>7.72</td>
<td>1.71</td>
<td>0.100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated ‘t’value =1.82 \(\text{df} =598\)  
Standard error of difference =0.142

1.96 at 0.05 level of confidence  
2.58 at 0.01 level of confidence

The above result illustrates that the ‘t’value is 1.82, which is not statistically significant at both the levels of significance. Hence, the null hypothesis is accepted. Thus, it can be inferred that the extrovert and introvert volleyball players do not differ significantly in their speed, component of general motor ability.

**Conclusion**
Extrovert volleyball players have performed with higher rate of 'speed' as compared to introvert volleyball players.

**Discussion**

Speed is one aspect of motor ability which depends on many factors along with the nature of personality. Introvert and extrovert volleyball players have performed the tasks with more or less same speed because both of them always remain conscious of their performance and are aware of the importance of speed that becomes instrumental for better performance in sports. The pattern of speed that results in the faster rate of performance is independent of the personality type.

**Sub-Hypothesis 3.2**

The Sub-Hypothesis 3.2 reads as: **There is no significant difference between extrovert and introvert volleyball players with respect to ‘Agility’, component of general motor ability.**

This hypothesis was tested by applying t-test of significance. The result has been reported in the following table:

<table>
<thead>
<tr>
<th>Personal Dimension</th>
<th>No. of Players (N)</th>
<th>Mean (X̄)</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert</td>
<td>310</td>
<td>11.18</td>
<td>2.52</td>
<td>0.143</td>
<td>1.49</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Introvert</td>
<td>290</td>
<td>10.89</td>
<td>2.21</td>
<td>0.129</td>
<td></td>
<td>Significant</td>
</tr>
</tbody>
</table>
Calculated ‘t’ value = 1.49, df = 598

Standard error of difference = 0.194

1.96 at 0.05 level of confidence

Table value

2.58 at 0.01 level of confidence

The above results illustrates that the ‘t’ value is 1.49, which is statistically not significant at both levels of significance. Hence, the null hypothesis is accepted. Thus, it can be inferred that the extrovert and introvert volleyball players do not differ significantly in their ‘Agility’, component of general motor ability.

**Conclusion**

Extrovert and introvert volleyball players do not differ significantly in their 'agility' component of general motor ability, but extrovert volleyball players have high rate of agility as compared to introvert volleyball players.

**Discussion**

Choice of type of a game is conditioned with the interest in particular game or sport. It always happens that the players of a particular game share their similar characteristics. Agility is that necessary aspect and requirement of a sport that help the players to make a quick and swift movement in a game. It helps the players to control one's own movement and change the position of body accurately. Those players who have deep
interest in a particular game do not spare any movement in controlling their agility, direction and position irrespective of their being either introvert or extrovert.

Sub-Hypothesis 3.3

The sub-hypothesis reads as: **There is no significant difference between extrovert and introvert volleyball players with respect to ‘Arm and Shoulder Strength’ component of general motor ability.**

This hypothesis was tested by applying t-test of significance. The result has been reported in the following table:

<table>
<thead>
<tr>
<th>Personality Dimension</th>
<th>No. of Players (N)</th>
<th>Mean ()</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert t</td>
<td>310</td>
<td>16.45</td>
<td>4.46</td>
<td>.253</td>
<td>1.623</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Introvert t</td>
<td>290</td>
<td>15.87</td>
<td>4.28</td>
<td>.251</td>
<td></td>
<td>Significant</td>
</tr>
</tbody>
</table>

Calculated ‘t’ value = 1.623  df = 598

Standard error of difference = 0.357
The above result illustrate that the ‘t’ value is 1.623, which is not statistically significant at both levels of significance. Hence, the null hypothesis is accepted. Thus, it can be inferred that the extrovert and introvert volleyball players do not differ significantly in their ‘Arm and Shoulder Strength’, component of general motor ability.

**Conclusion**

Extrovert volleyball players have shown high 'strength of arm and shoulder' as compared to introvert volleyball players.

**Discussion**

Introvert and extrovert volleyball players both are more concerned about their physique or body, arm and shoulder strength because of the nature of this game. Personality characteristics like introversion and extraversion do not contradict with each other so far as the performance in sports is concerned. Volleyball players give much attention to their muscular built that help in maintaining certain level of force which facilitates the performance in sports. Personality characteristics do not interplay with the building of muscular strength.

**Sub-Hypothesis 3.4**

The Sub-Hypothesis reads as: **There is no significant difference between extrovert and introvert volleyball players in respect of ‘Leg Strength’ component of general motor ability.**

This hypothesis was tested by applying t-test of significance. The
result has been reported in the following table:

<table>
<thead>
<tr>
<th>Personality Dimenson</th>
<th>No. of Players (N)</th>
<th>Mean (M)</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert</td>
<td>310</td>
<td>194.26</td>
<td>45.16</td>
<td>2.56</td>
<td>1.055</td>
<td>Not significant</td>
</tr>
<tr>
<td>Introvert</td>
<td>290</td>
<td>190.34</td>
<td>45.76</td>
<td>2.68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated ‘t’ value = 1.055  

Standard error of difference = 3.71

1.96 at 0.05 level of confidence

Table value

2.58 at 0.01 level of confidence

The above result illustrates that the ‘t’ value is 1.055, which is not statistically significant at both levels of significance. Hence, the null hypothesis is accepted. Thus, it can be inferred that the extrovert and introvert volleyball players do not differ significantly in their ‘Leg Strength’, component of general motor ability.

**Conclusion**

Extrovert volleyball players have shown higher 'strength of leg' as
compared to introvert volleyball players.

**Discussion**

There is a great role of ‘leg strength’ like strong muscular built in volleyball than in any other game. Players either introvert or extrovert try their level best to build up the leg strength so that they can play well, perform well with faster rate. Load bearing capability of leg is required to improve through practice for leg strength by all these players who play volleyball irrespective of being either extrovert or introvert.

**Sub-Hypothesis 3.5**

The Sub-Hypothesis reads as: **There is no significant difference between extrovert and introvert volleyball players in respect of ‘Balance’ component of general motor ability.**

This hypothesis was tested by applying t-test of significance. The result has been reported in the following table:

**Table 3.5**

<table>
<thead>
<tr>
<th>Personality Dimension</th>
<th>No. of Players (N)</th>
<th>Mean (M)</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extrovert</strong></td>
<td>310</td>
<td>72.28</td>
<td>19.10</td>
<td>1.08</td>
<td>1.155</td>
<td>Not significant</td>
</tr>
<tr>
<td><strong>Introvert</strong></td>
<td>290</td>
<td>70.61</td>
<td>16.04</td>
<td>0.94</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Calculated ‘t’ value = 1.155 \quad df = 598

Standard error of difference = 1.445

1.96 at 0.05 level of confidence

Table value

2.58 at 0.01 level of confidence

The above result illustrates that the ‘t’ value is 1.15, which is not statistically significant at both levels of significance. Hence, the null hypothesis is accepted. Thus, it can be inferred that the extrovert and introvert volleyball players do not differ significantly in their ‘Balance’, component of general motor ability.

**Conclusion**

Extrovert volleyball players have performed demonstrating higher rate of ‘balance’ as compared to introvert volleyball players.

**Discussion**

Balance is a very important component of general motor ability. All volleyball players practice to improve their power of maintaining a body balance. Introvert or extrovert or for that matter any other players, are always desirous to acquire the capacity of balance because it is very much needed in games like gymnastic and sports etc. Personality has nothing to do with it. Personality type influences the attitude and thinking capacity to initiate a course but not to a greater extent. Therefore it is reasonably understood that both type of players have made similar efforts to maintain the body’s centre of gravity over the supporting base of the body.

**Sub-Hypothesis 3.6**
The Sub-Hypothesis reads as: **There is no significant difference between extrovert and introvert volleyball players with regard to their ‘Muscular Endurance’ component of general motor ability.**

This hypothesis was tested by applying t-test of significance. The result has been reported in the following table:

**Table 3.6**

<table>
<thead>
<tr>
<th>Personal Dimension</th>
<th>No. of Players (N)</th>
<th>Mean ()</th>
<th>S.D.</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert</td>
<td>310</td>
<td>33.38</td>
<td>6.628</td>
<td>1.691</td>
<td>Not significant</td>
</tr>
<tr>
<td>Introvert</td>
<td>290</td>
<td>32.50</td>
<td>6.080</td>
<td>0.357</td>
<td></td>
</tr>
</tbody>
</table>

Calculated ‘t’value = 1.691
df = 598

Standard error of difference = 0.52

1.96 at 0.05 level of confidence

Table value
2.58 at 0.01 level of confidence

The results in the above table reveal that the ‘t’value has come out to be 1.691, which is not statistically significant at both levels of confidence. Hence, the null hypothesis is accepted. It can therefore be
inferred that the extrovert and introvert volleyball players do not differ significantly on their ‘Muscular Endurance’, component of general motor ability.

**Conclusion**

Both the type of volleyball players extrovert and introvert have shown undifferentiated on 'muscular endurance'.

**Discussion**

Muscular endurance like other qualities of motor ability play a significant role in volleyball game. It increases by repeating identical moments or by sustained work etc., which any type of player bearing any personality type will like to improve. Muscular endurance contributes in the successful performance in games and sports.

**Sub-Hypothesis 3.7**

The Sub-Hypothesis reads as: There is no significant difference between extrovert and introvert volleyball players on the ‘Flexibility’, component of general motor ability.

This hypothesis was tested by applying t-test of significance. The result has been reported in the following table:

**Table 3.7**
**Significance of means difference between extrovert and introvert volleyball players on ‘Flexibility’ component of general motor ability**

<table>
<thead>
<tr>
<th>Personality Dimension</th>
<th>No. of Players (N)</th>
<th>Mean ()</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert t</td>
<td>310</td>
<td>29.64</td>
<td>6.84</td>
<td>.388</td>
<td>1.427</td>
<td>Not significant</td>
</tr>
<tr>
<td>Introvert t</td>
<td>290</td>
<td>28.86</td>
<td>6.52</td>
<td>.382</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated ‘t’ value = 1.427  

df = 598

Standard error of difference = 0.546

1.96 at 0.05 level of confidence

Table value

2.58 at 0.01 level of confidence

The above result illustrates that the ‘t’ value has come out to be 1.42, which is not statistically significant at both levels of significance. Hence, the null hypothesis is accepted. Thus, it can be inferred that the extrovert and introvert volleyball players do not differ significantly on their ‘Flexibility’, component of general motor ability.

**Conclusion**

Extrovert and introvert volleyball players both have demonstrated more or less similar consciousness for 'flexibility'.

**Discussion**

There is a genuine reason why introvert and extrovert players both
have performed well in games. Flexibility is that component of motor ability which involves movement of skeletal joints. Those who opt for this sport will make all practices so that their performance excels. Skeletal joints need a lot practice to increase the flexibility of joints, if joints are flexible performance will be correspondingly better. Thus flexibility is needed for every type of player.

**Sub-Hypothesis 3.8**

The Sub-Hypothesis reads as: **There is no significant difference between extrovert and introvert volleyball players in respect of ‘Right Hand Eye Co-ordination’ component of general motor ability.**

This hypothesis was tested by applying t-test of significance. The result has been reported in the following table:

<table>
<thead>
<tr>
<th>Personality</th>
<th>No. of Players (N)</th>
<th>Mean ()</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert</td>
<td>310</td>
<td>4.25</td>
<td>1.33</td>
<td>.076</td>
<td>2.69</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Introvert</td>
<td>290</td>
<td>3.76</td>
<td>1.28</td>
<td>.075</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated ‘t’value = 2.69

\[ df = 598 \]
Standard error of difference = 0.108

1.96 at 0.05 level of confidence

Table value

2.58 at 0.01 level of confidence

The result in the above table that the ‘t’ value has come out to be 2.69, which is statistically significant at both levels of significance. Hence, the null hypothesis is rejected. Thus, it can be inferred that the extrovert and introvert volleyball players differ significantly in their ‘Right Hand Eye Co-ordination’, component of general motor ability.

**Conclusion**

Extrovert volleyball players have been found more apt in using ‘Right Hand Eye Co-ordination’ against of the introvert volleyball players.

**Discussion**

Extrovert volleyball players have shown more right hand eye coordination as compared to introvert volleyball players. Extrovert volleyball players are expected to have more longing for recognition and are more friendly, care more and promptly make use of right hand in playing. Such coordination occurs due to certain hormonal changes in their cognitive hemisphere that controls the pattern of movement and concentration.

**Sub-Hypothesis 3.9**

The Sub-Hypothesis reads as: **There is no significant difference between extrovert and introvert volleyball players in respect of ‘Left Hand Eye Co-ordination’ component of general motor ability.**

This hypothesis was tested by applying t-test of significance. The result has been reported in the following table:
Table 3.9
Significance of means difference between extrovert and introvert volleyball players on ‘Left Hand Eye Co-ordination’ component of general motor ability

<table>
<thead>
<tr>
<th>Personality Dimension</th>
<th>No. of Players (N)</th>
<th>Mean ()</th>
<th>S.D.</th>
<th>Standard Error of Mean</th>
<th>t-value</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrovert</td>
<td>310</td>
<td>5.12</td>
<td>1.62</td>
<td>0.092</td>
<td>2.47</td>
<td>Significant at 0.05 level</td>
</tr>
<tr>
<td>Introvert</td>
<td>290</td>
<td>5.43</td>
<td>1.43</td>
<td>0.08</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated ‘t’ value = 2.47  \( \text{df} = 598 \)

Standard error of difference = 0.125

- 1.96 at 0.05 level of confidence
- 2.58 at 0.01 level of confidence

The above result illustrates that the ‘t’ value is 2.47, which is greater than the table value at 0.05 level of significance, the null hypothesis is statistically significant at 0.05 level. Hence, the null hypothesis is rejected. Thus, it can be inferred that the extrovert and introvert volleyball players differ significantly in their ‘Left Hand Eye Co-ordination’, component of general motor ability.

Conclusion

Introvert volleyball players have come out manifesting more of ‘left
hand eye coordination’ in comparison to extrovert volleyball players.

**Discussion**

Introvert volleyball players use left hand eye coordination more may be, they are self-centered, their level of activity and initiation is supposed to be less therefore, they do not usually use the right hand eye coordination. Conative ability subsumes the eye hand coordination. Introvert players also might have a poor right hand and eye coordination.