CHAPTER -3
METHODOLOGY
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In this chapter, the selection of subjects, selection of test, reliability of data. Collection of data, test administration and statistical techniques for analyzing the data have been described.

Research Design

In the present research 5 x 2 factorial research design was used.

A Games

<table>
<thead>
<tr>
<th></th>
<th>Handball A_{1}</th>
<th>Volleyball A_{2}</th>
<th>Football A_{3}</th>
<th>Athletics A_{4}</th>
<th>Swimming A_{5}</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males B_{1}</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>125</td>
</tr>
<tr>
<td>Females B_{2}</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>125</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>250</td>
</tr>
</tbody>
</table>

Selection of Samples

In this study the subjects were selected from the players of hand ball, volley ball, foot ball, athletics and swimming participating national level of Gujarat state. (Both males and females were selected).

Sample

Total 250 subject were randomly selected from the male and female players of hand ball, volley ball, foot ball, athletics and swimming participating national level of Gujarat state.

❖ 50 players of hand ball – 25 males and 25 females
❖ 50 players of volley ball– 25 males and 25 females
❖ 50 players of foot ball– 25 males and 25 females
❖ 50 players of athletes – 25 males and 25 females
❖ 50 players of swimming – 25 males and 25 females
**Variables**

In present research players of various game such as hand ball, volley ball, foot ball, athletics and swimming and gender of players such as male and female players were considered as independent variable and different aspects of emotional maturity such as emotional instability, emotional regression, social maladjustment, personality disintegration and lack of independents and achievement motivation of players participating at national level were considered as dependent variable.

**Tools**

In present research following tools were used for data collection.

**(1) Emotional Maturity Scale (EMS):**

Dr. Yashvir Singh and Dr. Mahesh Bhargav

**Description and Scoring:**

Emotional maturity scale has a total of 48 items under the five categories given below:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Areas</th>
<th>Total No. of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Emotional stability</td>
<td>10</td>
</tr>
<tr>
<td>b.</td>
<td>Emotional Progression</td>
<td>10</td>
</tr>
<tr>
<td>c.</td>
<td>Social Adjustment</td>
<td>10</td>
</tr>
<tr>
<td>d.</td>
<td>Personality Integration</td>
<td>10</td>
</tr>
<tr>
<td>e.</td>
<td>Independence</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>48</strong></td>
</tr>
</tbody>
</table>

EMS is a self-reporting five point scale. Items of the scale are in question from demanding information for each in either of the five option mentioned below:

Very Much, Much, Undecided, Probably, Never
The items are so stated that if the answer is very much a score of 5 is given; for much 4; for undecided 3; and probably 2 and for never a score 1 is to be awarded. The higher the score on the scale, greater the degree of the emotional immaturity and vice-versa.

**Reliability**

The reliability of the scale was determined by: 1 Test-retest method, and 2. Internal Consistency.

i. **Test-retest Reliability** – The scale was measure for its test – retest reliability by administering upon a group of collegiate students (N=150) including male and female students aged 20-24 years. The time interval between the two testing was that of six months. The product moment r between the two testing was .75.

ii. **Internal Consistency** – The internal consistency of the scale was checked by calculating the coefficient of correlation between total scores and scores on each of the five areas. Table 1 given below, shows the values of internal consistency.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Areas</th>
<th>r Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Emotional stability</td>
<td>.75</td>
</tr>
<tr>
<td>b.</td>
<td>Emotional Progression</td>
<td>.63</td>
</tr>
<tr>
<td>c.</td>
<td>Social Adjustment</td>
<td>.58</td>
</tr>
<tr>
<td>d.</td>
<td>Personality Integration</td>
<td>.86</td>
</tr>
<tr>
<td>e.</td>
<td>Independence</td>
<td>.42</td>
</tr>
</tbody>
</table>
Validity

The scale was validated against external criteria, i.e. the Gha area of the adjustment inventory for college students by Sinha and Singh. The inventory has 'Gha' area measuring emotional adjustment of college students. The number of items of this area is twenty-one. Product moment correlation obtained between total scores on all twenty-one 'Gha' items and total scores on EMS was .64 (N=46).

(2) Achievement Motivation Test (AMT) By V. P. Bhargava

The construction of the test was done by following the procedure which was collection of items in Hindi from different sources (through experts in Hindi language and psychology), pooling them and then selecting them according to the respective merits of the items. The similar procedure was followed for fixing the possible alternative response which have similar competitive attraction value. In this the help given by the experts and consultants is thankfully acknowledge. When a rough format of the test (with 75) items was ready a preliminary testing programmed was carried on 35 subjects in order to check the administrative feasibility of the test and also to find out which of the items are 'not good' and may be easily dropped in the test. The final draft was accepted after taking into consecration the reliability and validity of the test. The inter – consistency among the test items, the reliability of the responses and criterion validity was obtain which was high enough for accepting the test for use as a major of achievement motivation.
Reliabilities
Test retest reliability after an interval of one month .87.
By comparing the responses on similar items .79.
Considering the responses if they indicate to major the same aspects for
which they were intended to major, it was found that they did so, the index
of reliability been .78.

Validity
The test was tried for having the arrangement with the criterion test
on N Ach, and with educational achievement in various faculties. It was
found that the test scores on this test an that with the test scores for SCT of
Dr. Bishvanath Mukharji had an agreement of .80 and with educational
achievement test (General) it had an agreement of .75.

Scoring
The procedure for scoring is very simple. It can be done with the help
of a scoring key. Each item indicating Achievement Motivation (N-Ach) is
given a score of 1 and the total score earned on all the items is the N-Ach
score.

Statistical Analysis
(1) In the present research two way analysis of variance was used to
study main and interaction effect of two independent variable
such as players of hand ball, volley ball, foot ball, athletics and
swimming and gender of players such as male and female players
on scores of different aspects of emotional maturity and
achievement motivation.