CHAPTER FIVE
CHAPTER V

METHOD AND PROCEDURE

5.1 DESIGN

This experimental study was designed on the basis of pre-test – post-test control group experimental design. Students were divided randomly into two groups. One group was randomly selected into experimental group and other into control group.

Under Self-Concept Boosting Plan (SCBP), special exercises were planned and each student of Experimental group was to do the exercises for duration of 2 months. When the Experimental group was busy in doing exercises, control group was busy in its routine work in the class and school.

In both the groups, self-concept was assessed in the beginning as well as at the end of the treatment. Apart from this Experimental group was assessed after every 15th day in order to see the trend of self-concept and reaction towards SCBP. Reaction of the students of experimental group towards SCBP was assessed with the help of a scale.

5.2 SAMPLE

Before making experimental and control group Arts, Science and Commerce students of 10+1 of two schools were matched on the variable of intelligence and socio-economic status by administering Group test of General Mental Ability and Socio-Economic Status Scale.

As the present study is an experimental study, therefore, a sample of 75 students of 10+1 class (25 students each in Arts, Science and
Commerce streams) were selected from one Government Senior Secondary School of Jagraon and selection of Arts, Science and Commerce sections were done randomly. This formed the experimental group.

For control group again a sample of 75 students of 10+1 class (25 students each in Arts, Science and Commerce stream) were selected from another Government Senior Secondary School of Jagraon (Punjab) and in this case also selection of Arts, Science and Commerce sections were done randomly.

While selecting the sample care was taken that students with urban and rural background, boys and girls and also students of general and reserved categories were taken in the study.

<table>
<thead>
<tr>
<th>Table 5.1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Detail of sample for the present study</strong></td>
</tr>
<tr>
<td>Institution</td>
</tr>
<tr>
<td>Govt. Sr. Sec. School (boys) Jagraon</td>
</tr>
<tr>
<td>Govt. Sr. Sec. School (girls) Jagraon</td>
</tr>
</tbody>
</table>

In Govt. Sr. Sec. Schools (Boys) Jagraon all the 75 students were divided with two groups (Experimental = 37 and Control Group = 38) after matching them on intelligence test and SES scale. Similarly in Govt. Girls Sr. Sec. School Jagraon all the 75 students were divided into two groups (Experimental = 38 and Control = 37) after matching them on intelligence test and SES Scale. In this way total number of students
comprising both boys and girls in each experimental and control group were 75 students.

5.3 TOOLS

2. Self-concept Boosting Plan (This plan in the form of 20 exercises was developed by the investigator herself).
3. Group Test of General Mental Ability (Jalota, 1972)
4. Socio-Economic Status Scale (Kohli, 1998)
5. Reaction Towards SCBP (This scale was developed by the investigator herself).
6. Adjustment Inventory (Mittal, 1976).
7. Academic Achievement of the students was measured by giving separate test for each stream.
   - Achievement Test in Political Science (by Kaur 2002)
   - Achievement Test in Science (by Rajnish 1998)
   - Achievement Test in Accountancy (by Gulati 2001)

These tests are given in Appendix – III.

5.3.1 Self-Concept List (Pratibha Deo, 1998)

SCL (PWL)

The SCL (Self Concept List, the revised personality word list) is based on the self-reporting technique and is available in both forms, the check list as well as the rating scale. Initially the PWL was adapted from Sarabin’s PWL which consists of practically all the representative adjectives which describe the various aspects of personality. However, it
was observed that the list was not suitable to the Indian conditions. Efforts, therefore, were made to develop the PWL from the self-description of individuals as well as from the reports obtained from the persons who took the Sarbin's list. On these bases the PWL was revised. Another revision took place in sixties with a view to have for each characteristics two synonyms and two antonyms for establishing split-half reliability. In a study conducted specially for this purpose the coefficient of reliability came out to be 0.92 which is very high but the list became rather lengthy. So again modifications were made in the PWL by avoiding duplication and by eliminating difficult and rare words. The SCL in the final form yielded a list of 212 words in the check-list form. This was standardized for use.

**Description of SCL (PWL)**

The check-list consists of 212 adjectives which cover almost all the important aspects of personality. Most of these are divided into positive and negative words, the classification being based on 80% agreement amongst the 25 judges specially appointed for this purpose. The judges were people with long experience in the field of psychology and education. Words not showing 80% agreement or characterized as neither positive nor negative are classified as neutral words. The positive or the negative aspect was considered from the personal as well as social point of view by the judges. The words are also divided into the different dimensions according to the connotation of the attribute and these dimensions are Intellectual, Emotional, Character, Social and Aesthetic characteristics. The check list can measure all the aspects, perceived,
ideal, real and social self, of the individual and under each, the scores are obtained for each dimension in positive and negative classes.

In developing the rating scale, it was thought unnecessary to include antonyms since the extremes on a scale for one characteristic would cover both the positive and negative aspects of the same. The check list was therefore shortened to 90 words by eliminating the opposite words and also some other words which did not evoke much of a response from the subjects. This Rating scale is on a 5-point scale; the five points being, very much like this, much like this, uncertain, not much like and not at all like this. The 90 words in the check list also are divided in the positive and negative and neutral classes as well as in the dimensions of intellectual, Emotions, Character, Social and Aesthetic Characteristics based on the consensus of the 25 judges. The rating scale can measure all the four aspects of the self-concept, the perceived, ideal, real and social on all the dimension for both positive and negative classes. The SCL (PWL) can be used for age groups which possess reading ability and are mature enough to report about themselves. The procedure and method of administration, scoring etc., are the same for both the versions.

**Purposes and Uses of PWL**

The SCL (PWL) can be used for the assessment of the individual for self-reporting approach or for the approach of observation by others. It can be used in a ‘Yes’ or ‘No’ form or in a rating scale on a 3-points or 5-points. The main purpose of SCL is to help persons in finding out and assessing what the individual thinks of himself and through the assessment, study many of the underlying problems of perception,
motivation, learning and adjustment. The result can be used to assist the individual for better adjustment, better achievement and better successes in life.

The SCL (PWL) has been extensively used for research purposes, and also for guiding students in educational problems. Guidance for personal problems too, has been provided through the use of this tool.

The Administration of the SCL (PWL)

The SCL can be given individually or in groups. Before the SCL (PWL) is given, good emotional rapport should be established, which is very necessary to get accurate and correct results. The subjects should be seated comfortably and at some distance from one another. The physical conditions of the room in which the test is to be administered should be comfortable and congenial. The investigator should adopt a sympathetic and understanding attitude towards the subjects to win their confidence.

Instructions printed on the list should be read out or explained verbally by the tester so that the subjects do not hesitate to give their honest and frank response in the correct manner. After the directions are fully explained, the subjects should be given a chance to ask any questions for the clarification of their doubts and queries. It should be made sure that the subjects understand clearly what they are expected to do to give correct responses. Copies of SCL (PWL) should be distributed to all of them. If the data are required for group comparisons, the subjects need not write the names which will bring out more frank and honest responses from the individuals. Otherwise, the subject may be asked first to write down all the particulars. Then the tester should
read the instructions which are printed on the SCL (PWL). After reading out the instructions, the tester should make sure that everyone has followed the instructions clearly and known exactly how he is asked to give responses. Also he should ascertain that all the particulars are filled. Then the tester may ask the subjects to “Now turn the card and go ahead”. There is no time limit for SCL (PWL) but usually subjects take about 15-20 minutes for filling up the List for one aspect.

After everyone has completed marking the responses the cards may be collected by the tester.

**SCORING**

Scoring of SCL (PWL) is quick through the use of stencil hand scoring keys. There are separate transparent keys for positive and negative scores as well as for neutral words. Keys are also available for the different dimensions.

For the check list, a positive word marked carries a weight of +1, and a negative word marked a weight of -1. Each aspect is scored separately. For one aspect, the total positive score will be the sum of all the positive weights given to the positive words. Similarly the negative words marked when totaled will yield the total negative score. The total positive score plus the total negative score gives the composite score for that aspect for that individual. Other aspects can be scored in a similar way.

The neutral words are not given any weightage and are to be ignored in the scoring.

For the rating scale, the weightage for positive words for the five points of very much like, uncertain, not like that, not at all like that are

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4, 3, 2, 1 and 0 respectively and for a negative word, also the weightage is the same way. The composite score is obtained by subtracting the total negative score from the total positive score. The neutral words are to be ignored in the scoring. If dimensionwise analysis is aimed at, only the words belonging to that particular dimension are considered and the positive and negative scores for that dimension are obtained in the manner explained above. Similarly, negative and composite scores for all the dimensions can be calculated. This can be done for each aspect separately for comparison.

Discrepancies between different aspects can be worked out by subtracting the total composite score for one aspect (say perceived) from the total composite score for another aspect (say ideal). This will give the score for self-acceptance. Similarly, discrepancies between other aspects can be calculated. Dimensionwise discrepancies can be similarly calculated. Other methods of calculating discrepancies are also applicable in the case of SCL (PWL).

Consistency scores and discrepancy scores over a period of time may be obtained by administering the SCL after particular time intervals. For this purpose, two response cards on two occasions can be compared. If a word is marked by a person on both the occasions, one score for consistency is given. The total of such scores will give the total consistency score for the individual. If a word is marked on one occasion but not on the other occasion, it gives one discrepancy score. The total of all such scores gives the total discrepancy score for the individual. The difference between the composite scores on the two occasions gives the total Difference Score for the individual.
Reliability

Reliability was estimated by test re-test method after 15 days' interval, the reliability co-efficient came out to be 0.89 (N=595). Taking different time intervals from 15 days to 3 months, the co-efficient of correlation ranged from 0.62 to 0.86 (N ranging from 65 to 70). The correlations between consistency scores ranged from 0.84 to 0.98. These values indicate a high degree of consistency. It did not reveal any marked difference in the self-concepts of individual over these periods. This proves that the SCL (PWL) gives a stable and reliable measure of self-concept.

Validity

The convergent and discriminant validity was found over for this SCL (PWL) besides establishing the content validity, because the other usual methods of finding out validity did not suit the nature of this tool. For obtaining the convergent validity, another tool SCL (Self-concept List) which had also been standardized was utilized. The results are given in the following Table.

Table I

Convergent and Discriminant validities for perceived Self on PWL
(N=100)

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>E</th>
<th>S</th>
<th>C</th>
<th>A</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligence (I)</td>
<td>0.65**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional (E)</td>
<td>0.57**</td>
<td>0.69**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social (S)</td>
<td>0.67**</td>
<td>0.55**</td>
<td>0.80**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Character (C)</td>
<td>0.45**</td>
<td>0.41**</td>
<td>0.46**</td>
<td>0.89**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aesthetic (A)</td>
<td>Neutral (N)</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>0.43**</td>
<td>0.31**</td>
<td>0.14*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.37**</td>
<td>0.12*</td>
<td>0.12*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.18**</td>
<td>0.06*</td>
<td>0.22*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.73**</td>
<td>0.14*</td>
<td>0.12*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Sig. at 0.05 level **Sig. at 0.01 level

The table shows that the convergent correlations between the same dimensions in all cases are higher than the discriminant correlation, thus proving the validity of the instrument.

Similar results were obtained for ideal self and Social self scores also proving the convergent and discriminant validity of the instrument.

5.3.2 Self – Concept Boosting Plan

This plan was developed by the investigator, the detail of which has been given in chapter – IV.

5.3.3 Group Test of General Mental Ability (Jalota, 1972):

As a measure of verbal intelligence the Hindi version of the Group Test of General Mental Ability (Jalota, 1972) was used in the present study. This test was preferred to others as it is a well known test and is widely used in India (Gakhar, 1981). Moreover, being a group test it can be administered to a number of students at a time.

Group test of General Mental Ability (Jalota, 1972) comprises of 100 items to be completed in 20 minutes time. It includes the hundred items as 10 similar, 10 opposite, 20 classification, 20 number series, 10 best answers, 10 reasoning and 20 analogies items.

The reliability of the test was reported to be ranging from 0.78 to 0.85 which is quite high and testifies the soundness of the test. Its
concurrent validity co-efficient ranged from 0.50 to 0.78 taking the examination marks as criterion.

Emersion tables have been provided grade-wise for finding out the mental age with caution of not using the same with very young or very old age groups. Norms are given on the basis of both, chronological age and grades. All the items have four or five responses and were scored on 'All or none bases'. Total scores were found out by adding all the correct responses.

5.3.4 Socio-Economic Status Scale (Kohli, 1988)

Development of SES Scale

Socio-economic status scale was developed in such a manner as to provide a simple instrument which could be used without spending much time and effort and to yield a correct measure of socio-economic status of a student.

After studying the various aspects contributing to the status of a family, the investigator arranged the items in the questionnaire and then discussed with six experts to have their opinions in regard to the economic status of a family. While preparing the draft of the scale due consideration was given to have the minimum number of variables in the scale for reflecting the socio-economic status. The first draft contained 13 statements which covered the queries about the total income of family members irrespective the profession/occupation of all the earning individuals therein. On the basis of the report of experts 4 statements pertaining to the queries about education and hobbies were dropped out.

The scale was redrafted and then submitted to the six experts of the Department of Education, Panjab University for revision. The draft of
the SES Scale thus developed, consisted of 9 questions. Rational weights were assigned to various responses for the scoring purposes. The questions and the weightage assigned to them are described below:

**SES Question 1**

In this question, the researcher enquired about the monthly income of the family to which a student belonged; also was asked the kind of source of income, that is, business or service. The weights were assigned on the total income of the family members ranging from 1 to 6.

**SES Question 2**

In this query, the investigator asked about the monetary help which the students got in the shape of scholarship or in any other form. The answer was to be given in the form either of 'yes' or of 'no'. In the case of 'yes' response zero mark was allotted and for 'no' response one mark was assigned.

**SES Question 3**

In this query, the investigator asked about the arrangement made for the tutors at their homes. For the answer 'yes', 1 mark was assigned and for 'no' answer, zero mark was given.

**SES Question 4**

In this question, weights were assigned on the total amount which the student got as his pocket money. The weightage is explained in the table.
Weightage Assigned for Pocket Money

<table>
<thead>
<tr>
<th>Range of Pocket Money in Rupees</th>
<th>Upto 50</th>
<th>51-100</th>
<th>101-150</th>
<th>151-200</th>
<th>200 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marks weightage</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

The upper limited of marks assigned was 5.

SES Question 5
In this query the rented 'house' was assigned '0' and owned house was given 1 mark.

SES Question 6
At the time of quantification this query was considered along with the SES question No. 1.

SES Question 7
The researcher, in this query, asked about the type of house in which the students lived and weightage was given as illustrated in the table.

Weightage Assigned to the Type of House

<table>
<thead>
<tr>
<th>Type of House</th>
<th>Kachcha</th>
<th>Pacca</th>
<th>Bungalow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weights</td>
<td>0</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

SES Question 8
In this query, the investigator enquired about the rooms of different categories (categorization was made on the basis of usage). The weightage of rooms is given in the table.
Weightage Alloted to the Room Categories

<table>
<thead>
<tr>
<th>Categories of Rooms</th>
<th>Drawing room</th>
<th>Bed room</th>
<th>Study room</th>
<th>Dining Hall</th>
<th>Kitchen</th>
<th>Bathroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weightage</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

SES Question 9

The investigator enquired in this query about the different articles which could be utilized in the daily life at home. The weights assigned to the different articles are mentioned in the table.

Weightage Allotment for Articles

<table>
<thead>
<tr>
<th>Weightage for each article</th>
<th>Names of the articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Heater, Electric fan, Bicycle, Stove</td>
</tr>
<tr>
<td>2</td>
<td>Camera, Transistor, Radio, Dinning table</td>
</tr>
<tr>
<td>3</td>
<td>Air Cooler, Geaser, Grinder, Gas stove</td>
</tr>
<tr>
<td>4</td>
<td>Refrigerator, Telephone, Pistol, Rifle, TV (B&amp;W)</td>
</tr>
<tr>
<td>5</td>
<td>Car, Tractor, Bike, Scooter, Air conditioner, VCR/VCP, Colour TV</td>
</tr>
</tbody>
</table>

Reliability of the Socio-Economic Status Scale

Reliability means the accuracy of measurement by a test. Mehrens (1976) says, “Reliability is typically defined as the degree of consistency between two measures of the same thing”.

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For the present study, the draft scale was administered to a sample of 50 students (25 students of rural area and 25 students of urban area). The statistical value of reliability co-efficient was found to be 0.90 by the Test-Rest method.

Validity of the Scale

According to Best (1970), “Basic to the validity of a questionnaire is the right questions phrased in the least ambiguous way..... The panel of experts may rate the instrument in terms of how effectively it samples significant aspects of its purpose, providing estimates of content validity”.

Two methods were used to test the validity of SES scale

(i) Matching against outside criterion and
(ii) Comparison of dichotomous groups.

(i) Matching against outside criterion:

The validity of the scale was tested by requesting several teachers and students in the Higher Secondary School, to give the class estimate of the persons they knew well and then the actual occupation, income and assets were ascertained and the class estimate given on the basis of the socio-economic status scale. It was noticed that the scale worked satisfactorily for the social classes.

(ii) Comparison of Dichotomous Groups

A heterogeneous group of twenty persons was interviewed. Each person was asked to indicate the names or the initials of three persons, who in his estimation had very high status in society. Then he
was asked to give the names or initials of three persons who held, in his opinion, the lowest status in society. After obtaining the names of these six persons, he was asked to give the occupation, income and assets of each person. In this manner information was obtained regarding 50 persons 25 being of high status and 25 of low status.

The data of these two dichotomous groups were scored. Mean, standard deviation, standard error of difference and t-ratio of the groups are shown in the table.

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>SED (D)</th>
<th>t-ratio</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>High SES</td>
<td>89.32</td>
<td>14.966</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low SES</td>
<td>51.56</td>
<td>12.289</td>
<td>3.873</td>
<td>9.749</td>
<td>Highly Significant</td>
</tr>
</tbody>
</table>

The t-ratio is highly significant implying that the scale under reference discriminates significantly between high and low groups based on the socio-economic status.

5.3.5 Reaction of Students Towards SCBP

This proforma was developed by the investigator with the help of her guides, colleagues and lecturers teaching in Colleges of Education. This proforma has 24 questions.

Reaction of students towards SCBP Proforma has been appended with the thesis (Appendix – II).
5.3.6 Adjustment Inventory (Mittal, 1976)

This inventory is intended for use with high school and college students, ranging in age from 11 years to adulthood. It is suitable for both the sexes. The tool is chiefly meant for discriminating well adjusted from poor adjusted ones. The inventory provides separate measures of adjustment in four areas.

a) Home adjustment
b) Social adjustment
c) Health and Emotional adjustment
d) School Adjustment

In all there are 80 items which are equally distributed among the four areas of adjustment. The respondents are required to score their responses in three categories 'Yes', '?', 'No'. There is no time limit to complete the inventory, but in general students take 30-35 minutes in going through instructions and recording their responses.

A high score on inventory indicates superior adjustment while low score is the indicator of poor adjustment. This is meant for group administration but when required can also be used with individual cases without affecting its validity.

Reliability of the Inventory

Reliability of the inventory has been obtained by split half method on odd and even items of the inventory as on four scales separately.

The reliability co-efficient for four areas of the inventory are separately given below:

<table>
<thead>
<tr>
<th>Area of Adjustment</th>
<th>Split-half Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Home adjustment</td>
<td>0.64</td>
</tr>
</tbody>
</table>
Validity of Inventory

The inventory has been validated with different indexes at different levels. It has been validated against two external criteria:

a) Teacher’s rating of their pupil overall adjustment  
b) Parent’s rating  

c) Health and Emotional adjustment  
d) School Adjustment  

5.4 PROCEDURE

For matching the students of experimental as well as control group, Group Test of General Mental Ability and Socio-Economic Status Scale were administered to all the students.

In the beginning, students of both the groups were assessed on the variable of self-concept and adjustment by administering Self-Concept List and Adjustment Inventory as a pre-test.

After that Experimental group was given treatment in the form of 20 exercises for a period of 2 months (2 months x 30 days = 60 days), thus approximately for each exercise two days time was kept at the disposal of student and reaction towards SCBP. Control group was busy in its routine work in the class and school.
Again after a period of 2 months, students of both the groups (i.e. experimental as well as control group) were assessed on the variable of self-concept and adjustment as a post-test.

After each 15th day, again, Self-concept List was administered to the children of only experimental group to see the trend of self-concept. Also their reactions towards the programme were noted down.

For analysis of data mean score of pre-test and post-test were compared.

Programme of Action for Experimental Group

<table>
<thead>
<tr>
<th>Date</th>
<th>Exercise No.</th>
<th>Exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.10.2002</td>
<td>1</td>
<td>&quot;Who am I&quot;</td>
</tr>
<tr>
<td>19.10.2002</td>
<td>2</td>
<td>&quot;Self-confidence&quot;</td>
</tr>
<tr>
<td>23.10.2002</td>
<td>3</td>
<td>&quot;Imagine the most Beautiful Person&quot;</td>
</tr>
<tr>
<td>28.10.2002</td>
<td>4</td>
<td>&quot;Positive Comments&quot;</td>
</tr>
<tr>
<td>30.10.2002</td>
<td>5</td>
<td>&quot;Memory games&quot;</td>
</tr>
<tr>
<td>07.11.2002</td>
<td>6</td>
<td>&quot;Sharing Achievement&quot;</td>
</tr>
<tr>
<td>11.11.2002</td>
<td>7</td>
<td>&quot;Nice Things&quot;</td>
</tr>
<tr>
<td>14.11.2002</td>
<td>8</td>
<td>&quot;Imagine an Ideal Person&quot;</td>
</tr>
<tr>
<td>18.11.2002</td>
<td>9</td>
<td>&quot;Happiest Events that leads to Happy Life&quot;</td>
</tr>
<tr>
<td>22.11.2002</td>
<td>10</td>
<td>&quot;Relieving Tension and Controlling Nerves&quot;</td>
</tr>
<tr>
<td>25.11.2002</td>
<td>11</td>
<td>&quot;Making Relationship&quot;</td>
</tr>
<tr>
<td>27.11.2002</td>
<td>12</td>
<td>&quot;Feeling of Pride&quot;</td>
</tr>
</tbody>
</table>
5.5 STATISTICAL TECHNIQUES USED

1. In the present study, for the analysis of data, the statistical techniques of mean, SD and t-ratio were employed.

2. Graphical representation was also shown for showing the trends of self-concept.